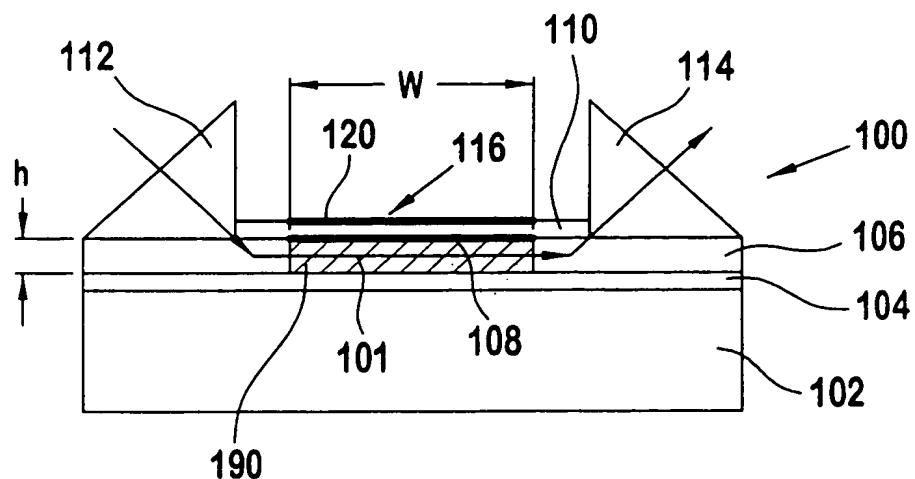
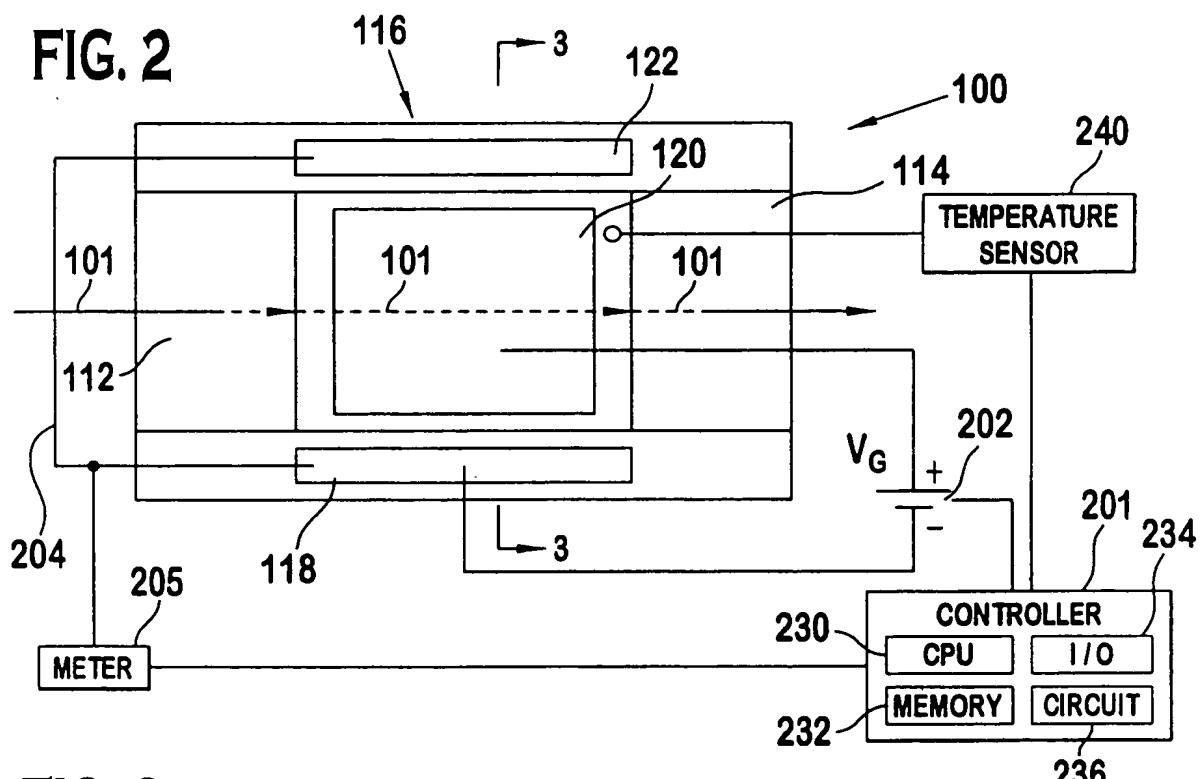


**FIG. 1**



**FIG. 2**



**FIG. 3**

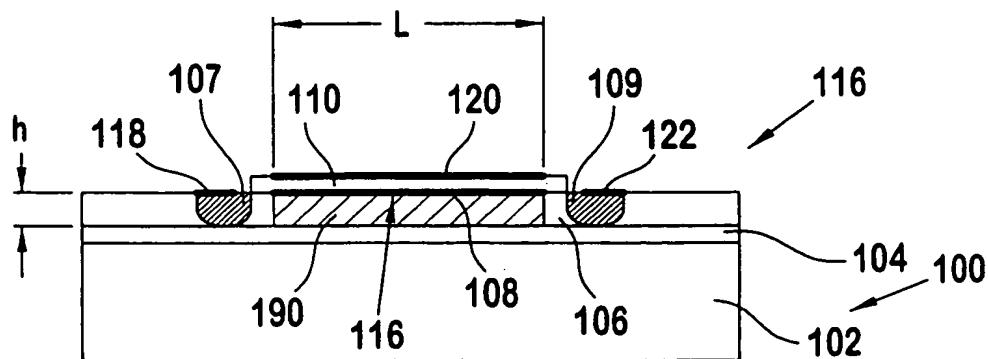


FIG. 4

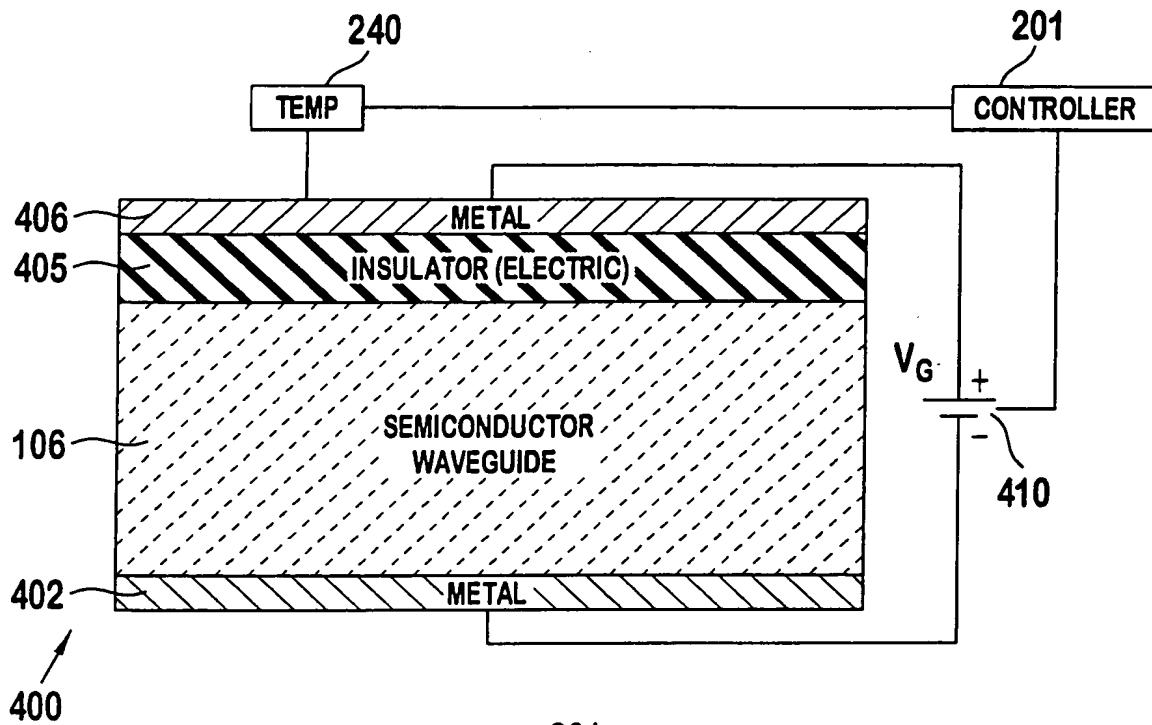


FIG. 5

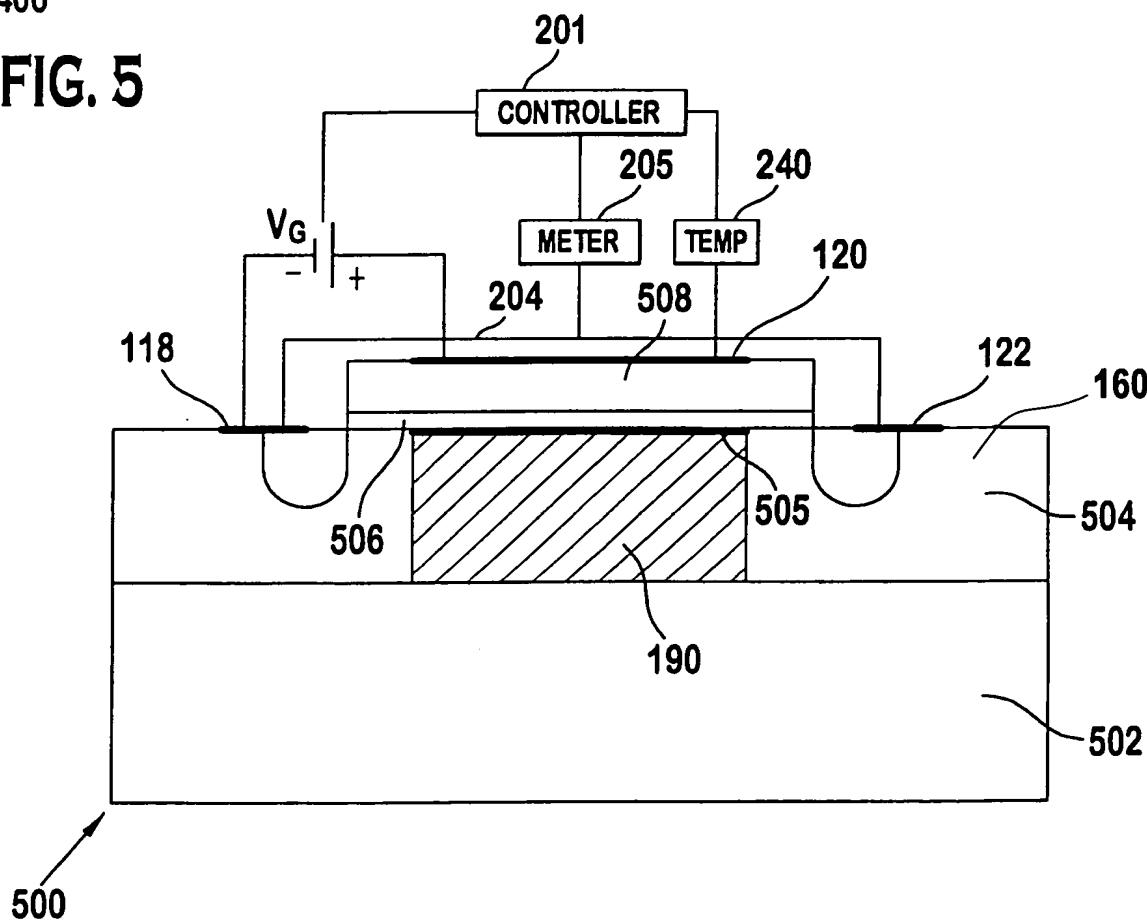
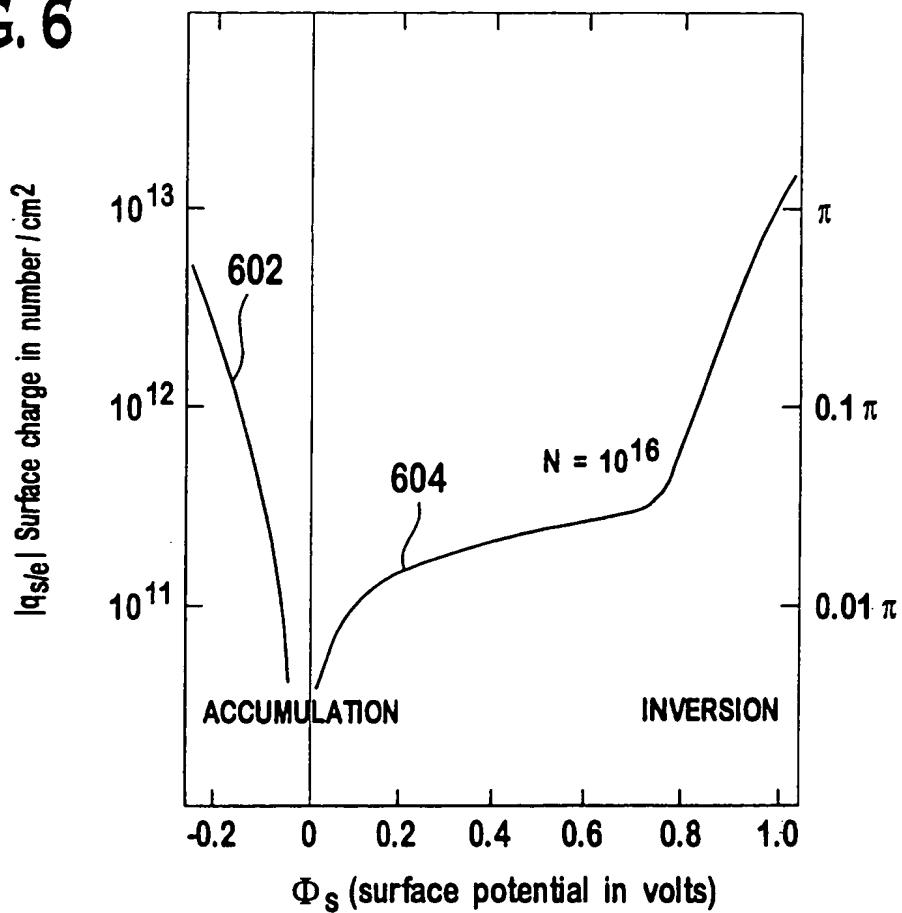


FIG. 6



Phase shift for 3 mm long device with 0.2  $\mu\text{m}$  waveguide

FIG. 7

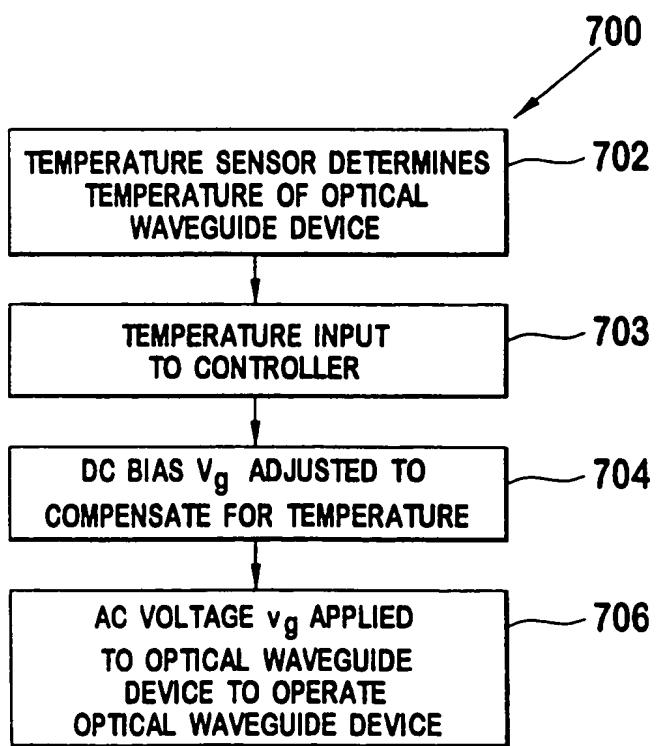


FIG. 8

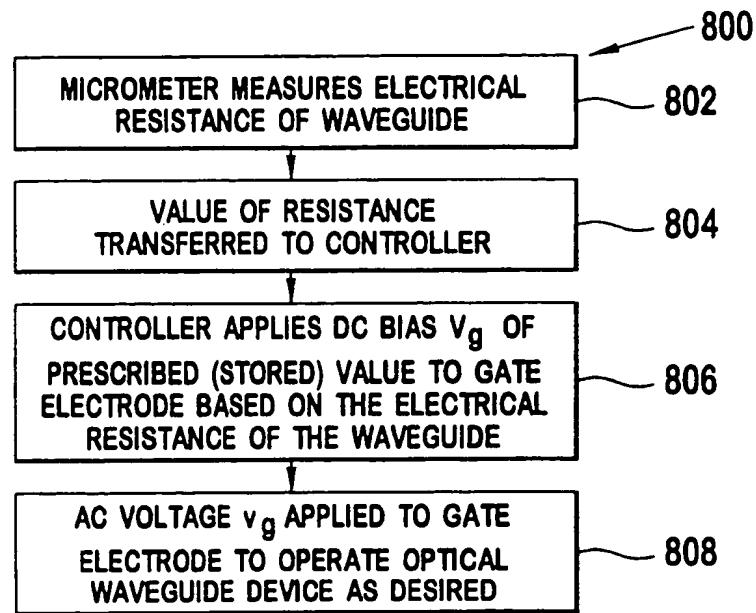


FIG. 9

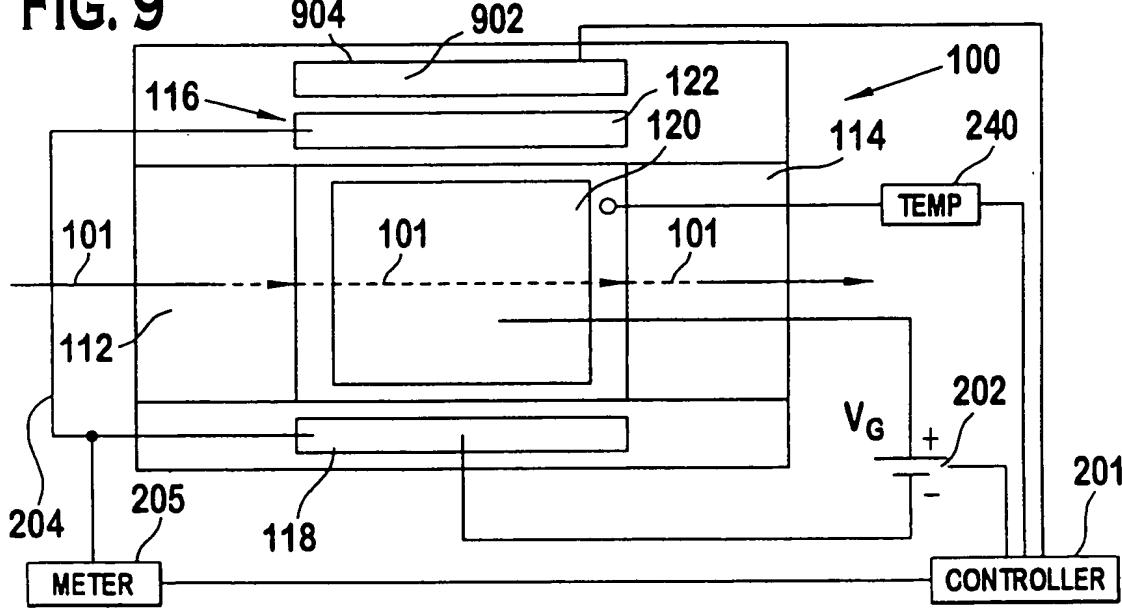


FIG. 10

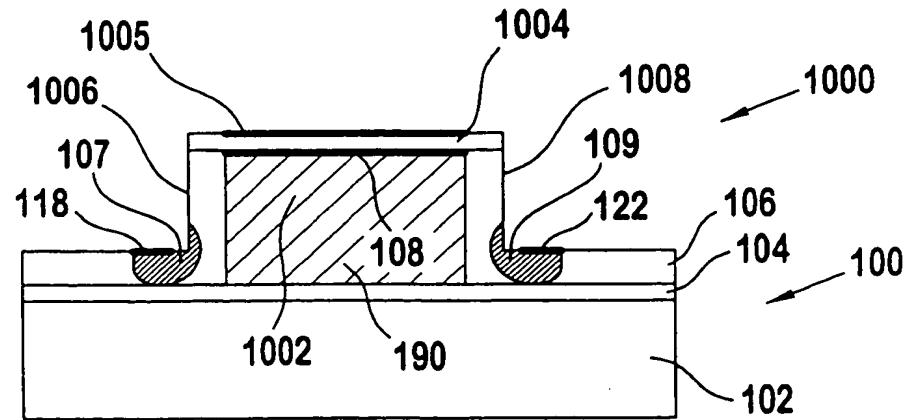


FIG. 11

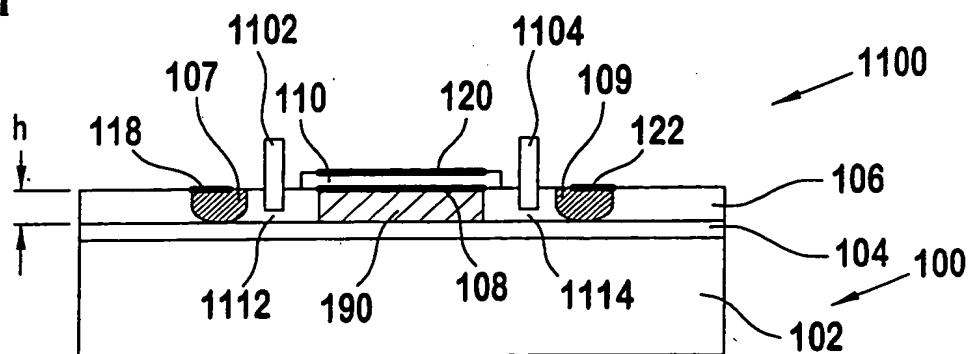


FIG. 12

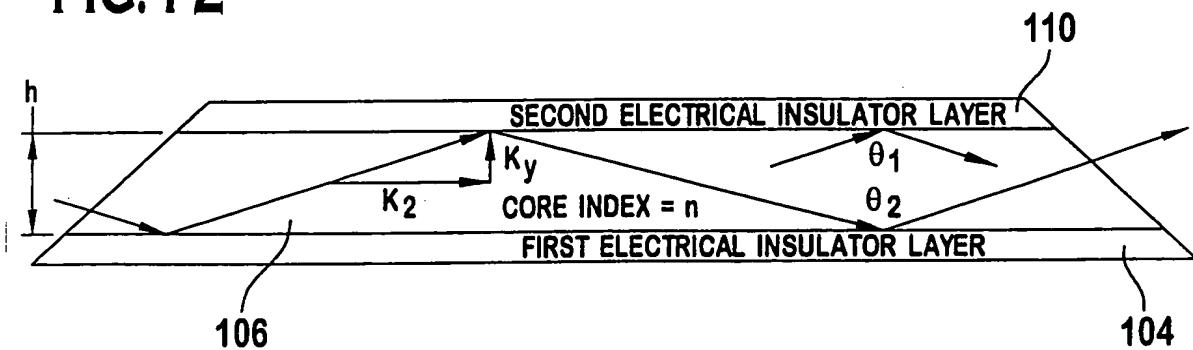
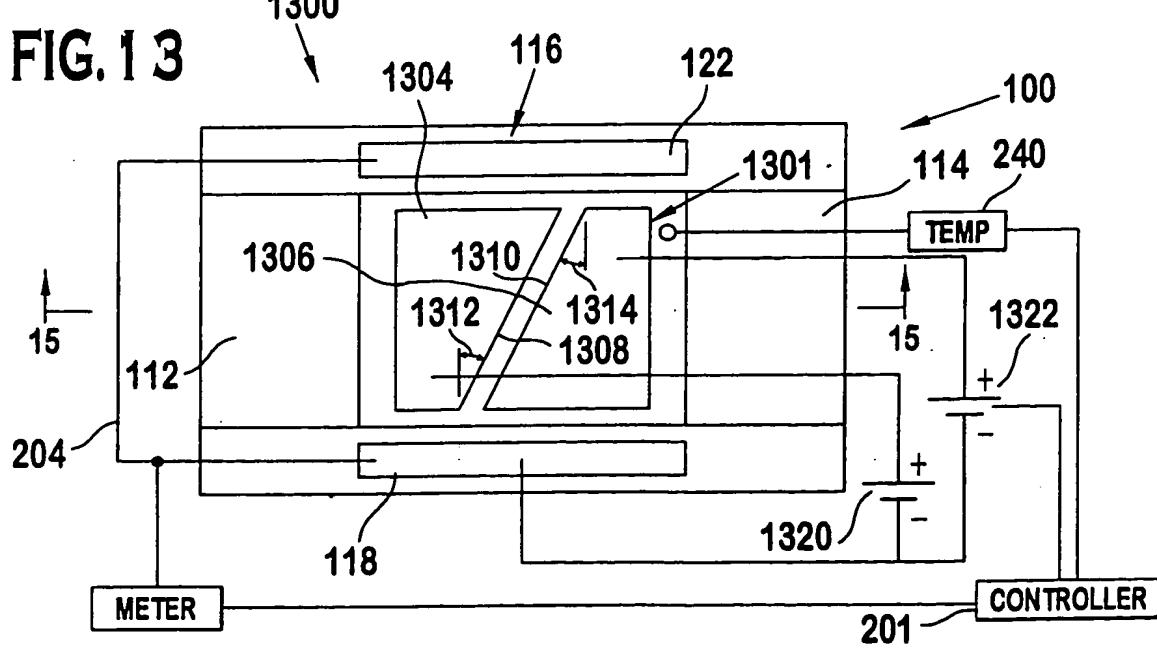
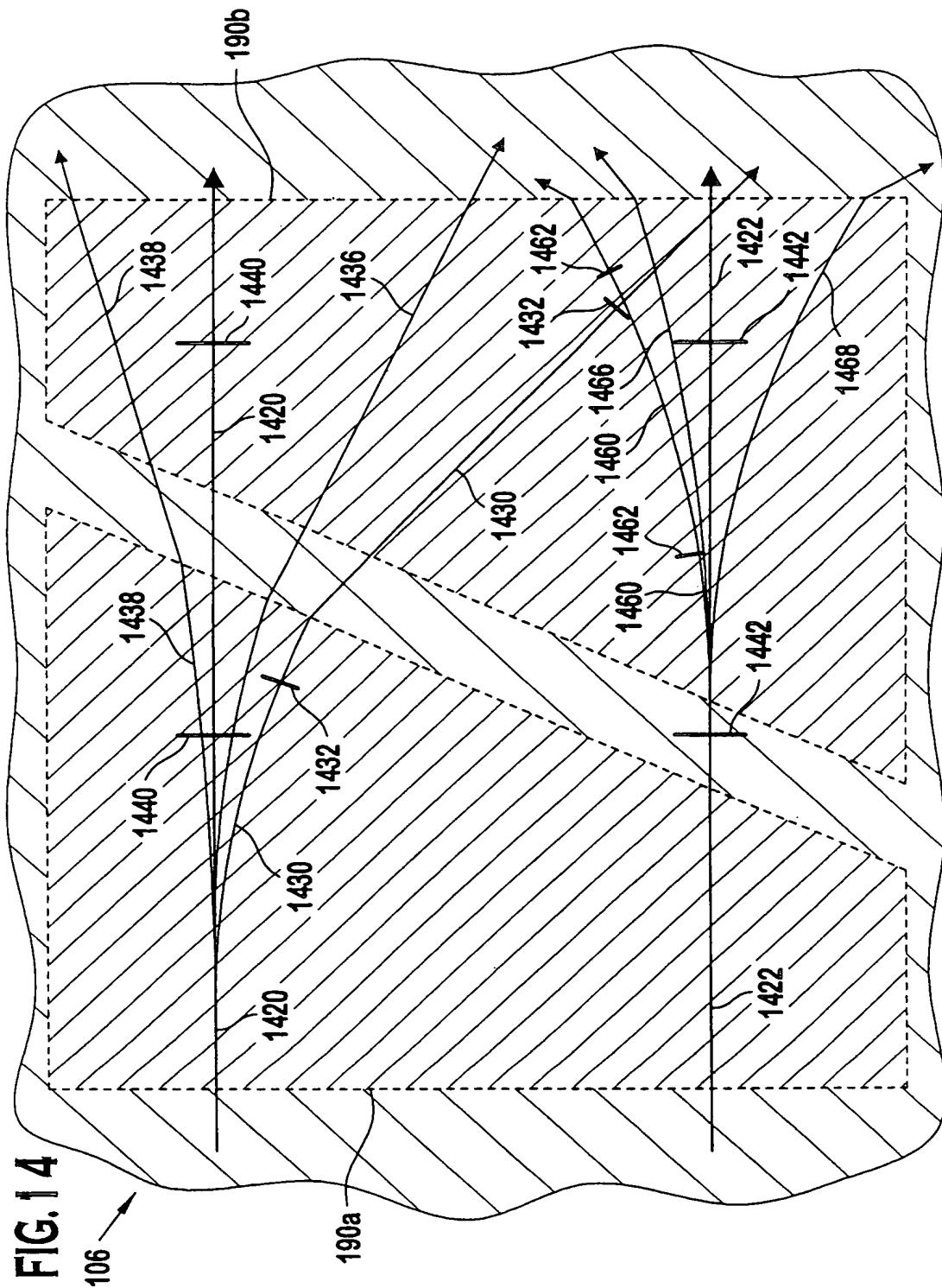
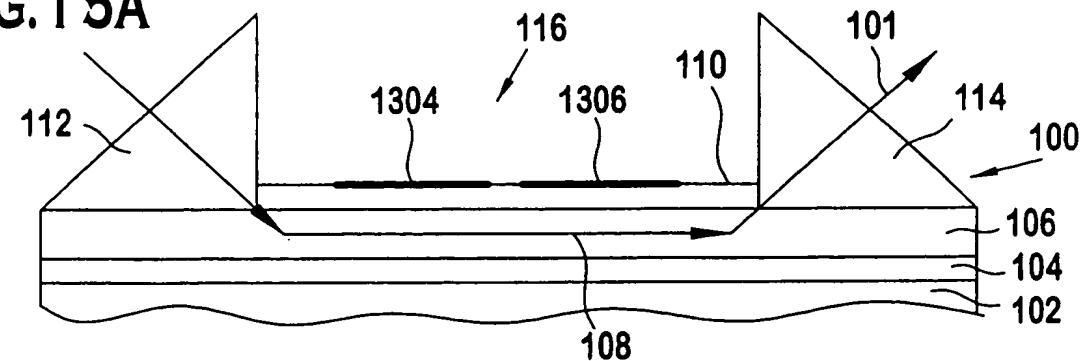


FIG. 13

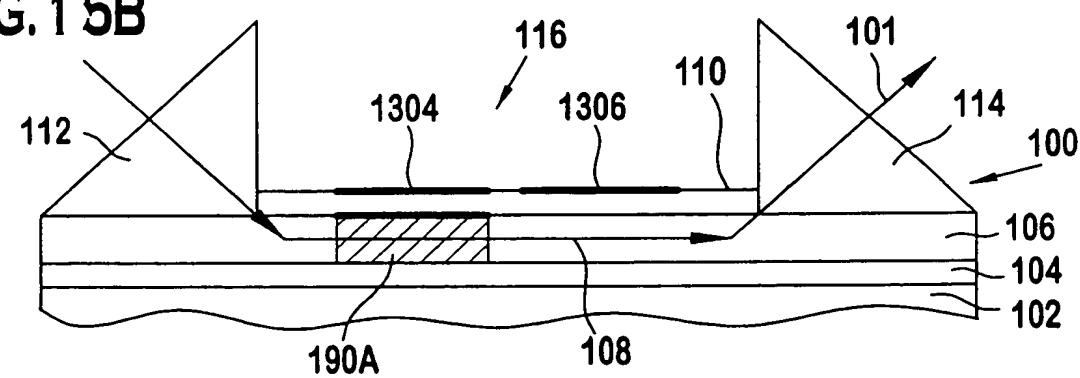




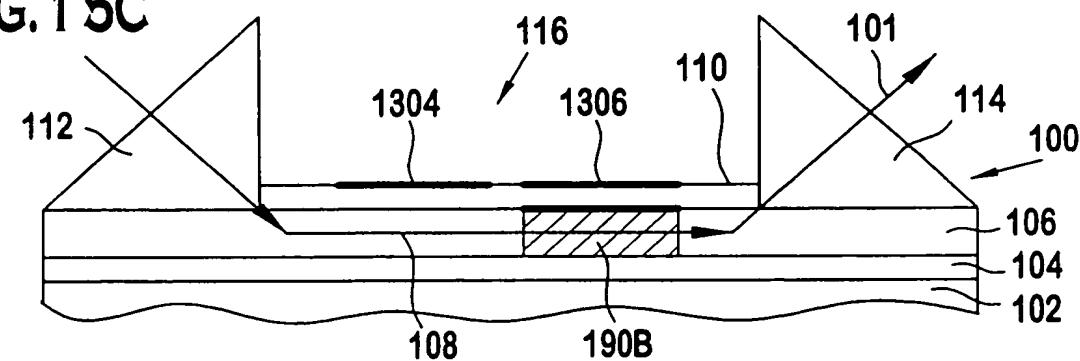
**FIG. 15A**



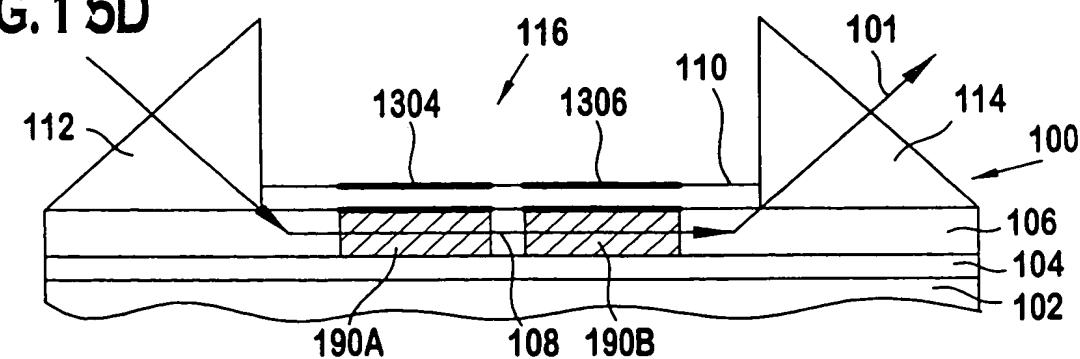
**FIG. 15B**



**FIG. 15C**



**FIG. 15D**





## FIG. 16

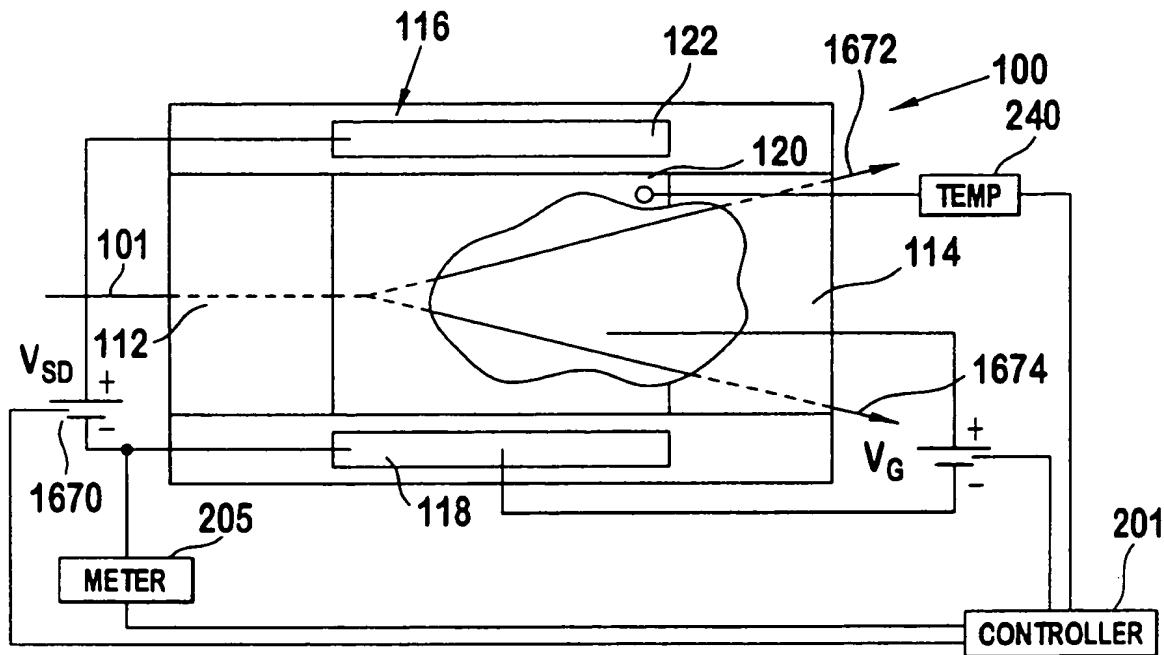


FIG. 17

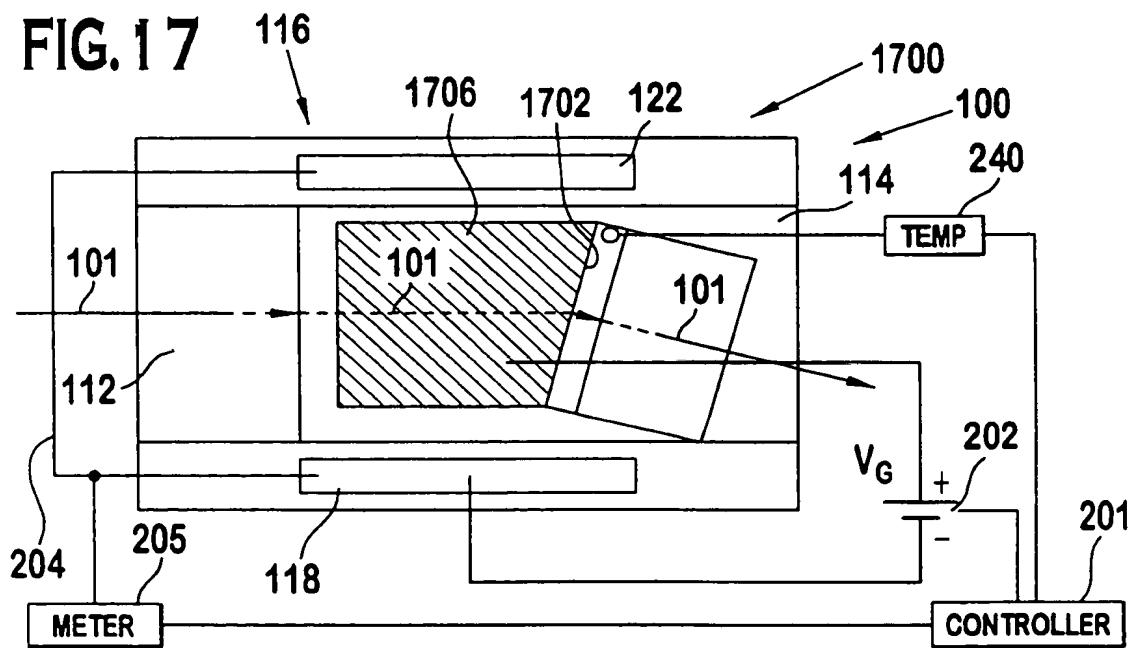


FIG. 18

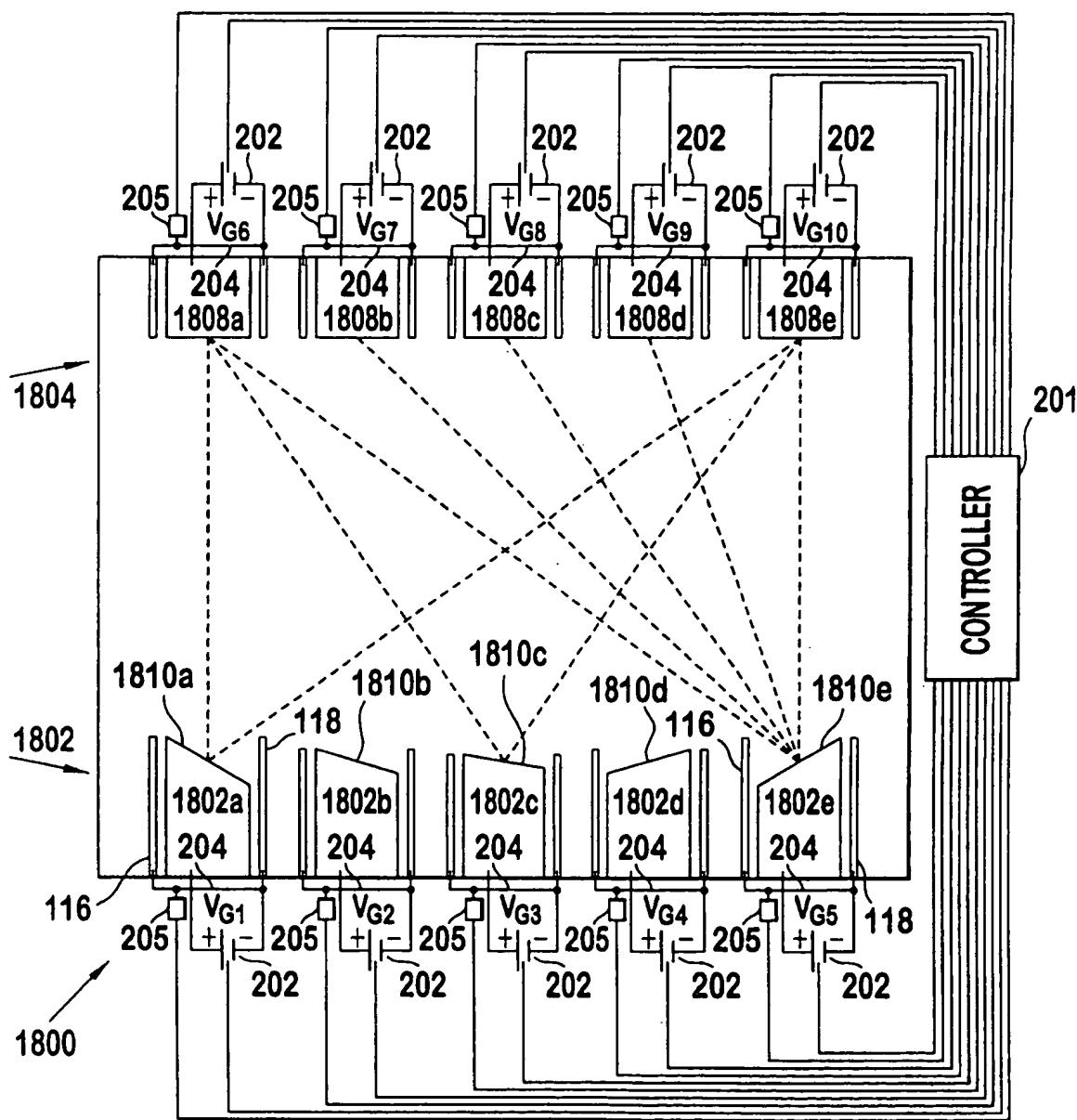
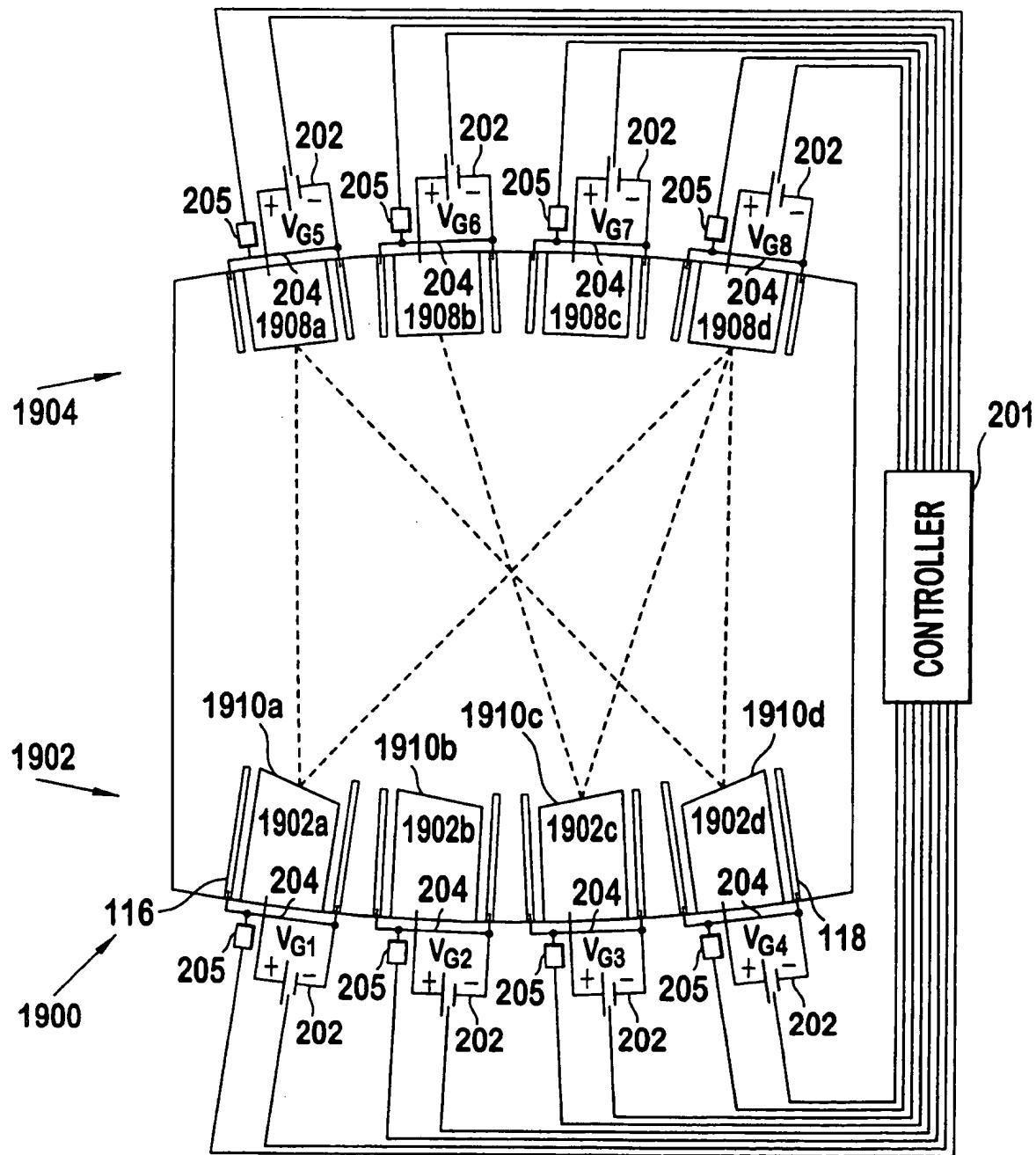
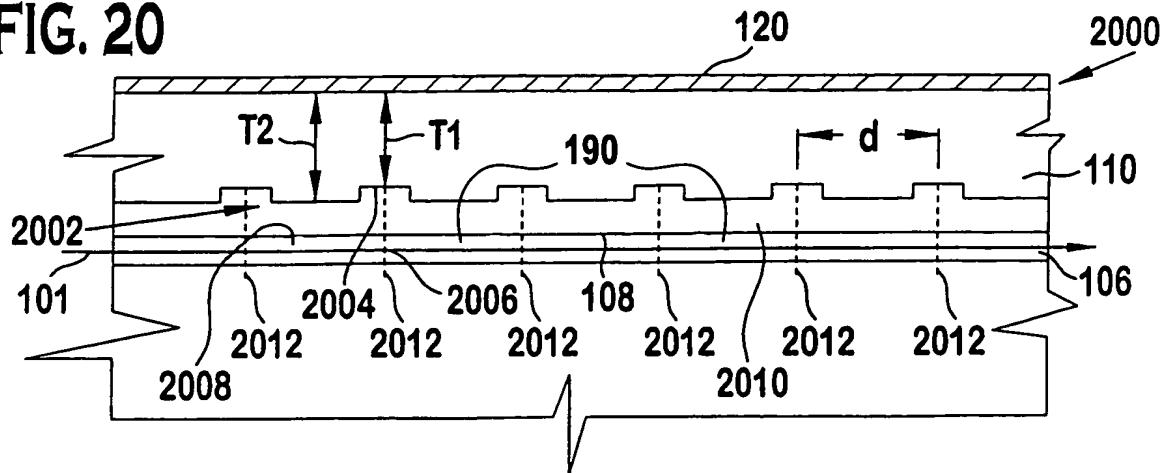


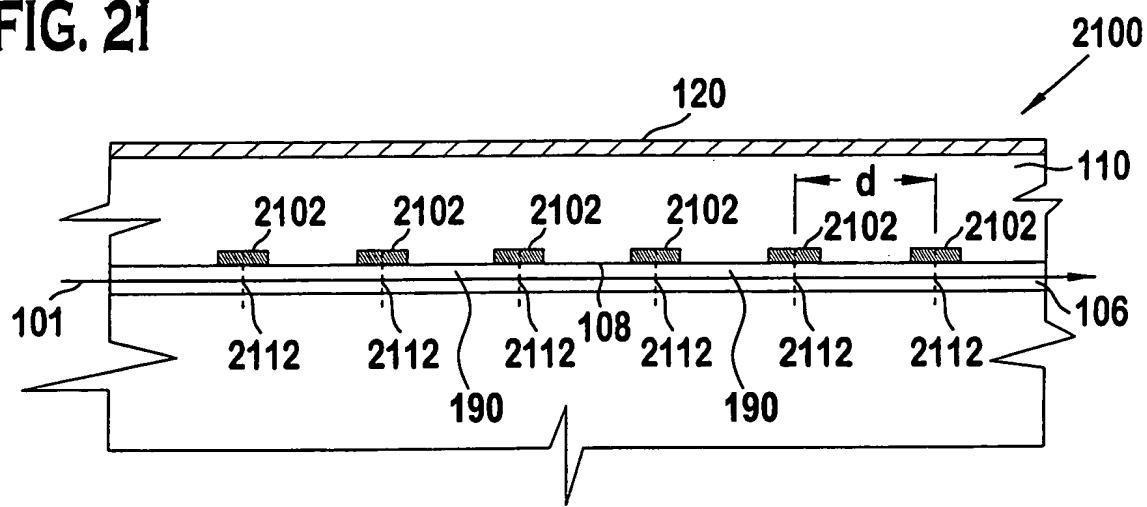
FIG. 19



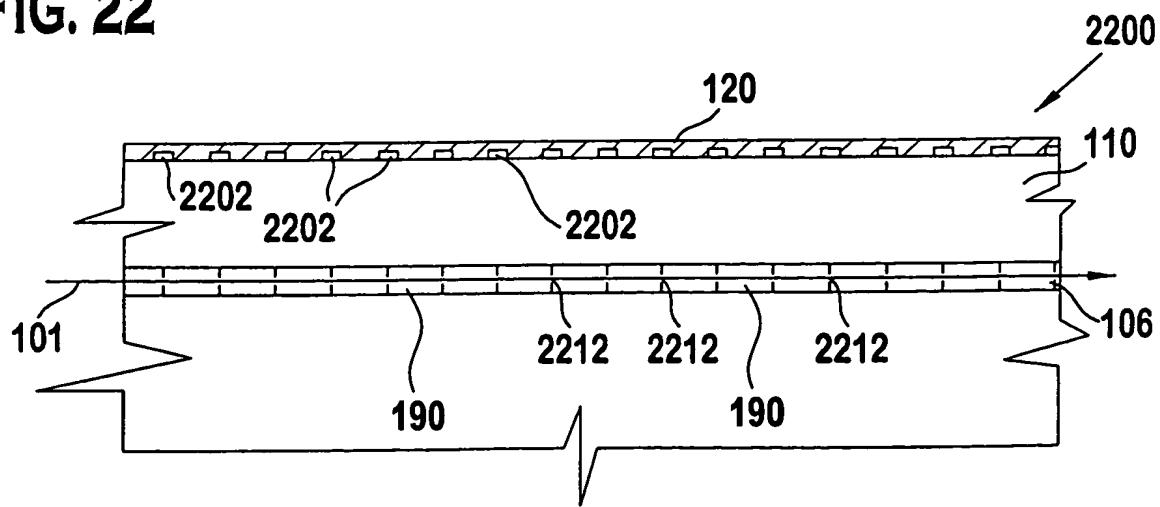
**FIG. 20**



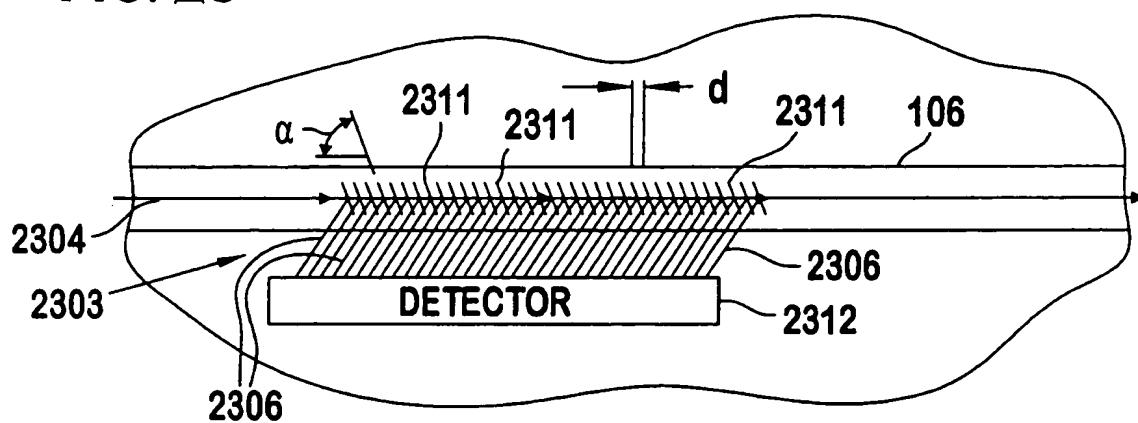
**FIG. 21**



**FIG. 22**



**FIG. 23**



**FIG. 24**

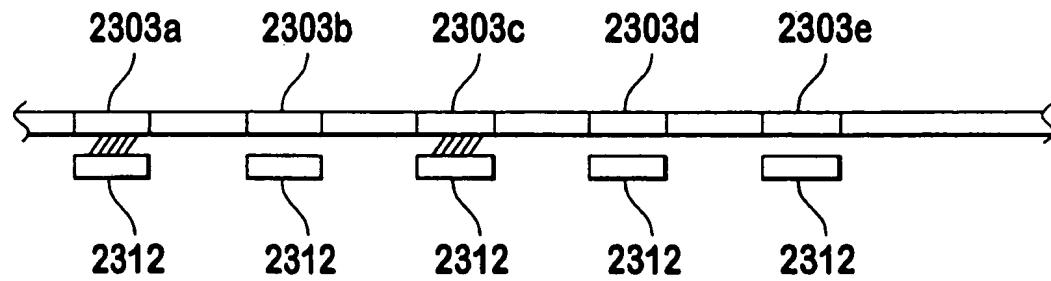


FIG. 25

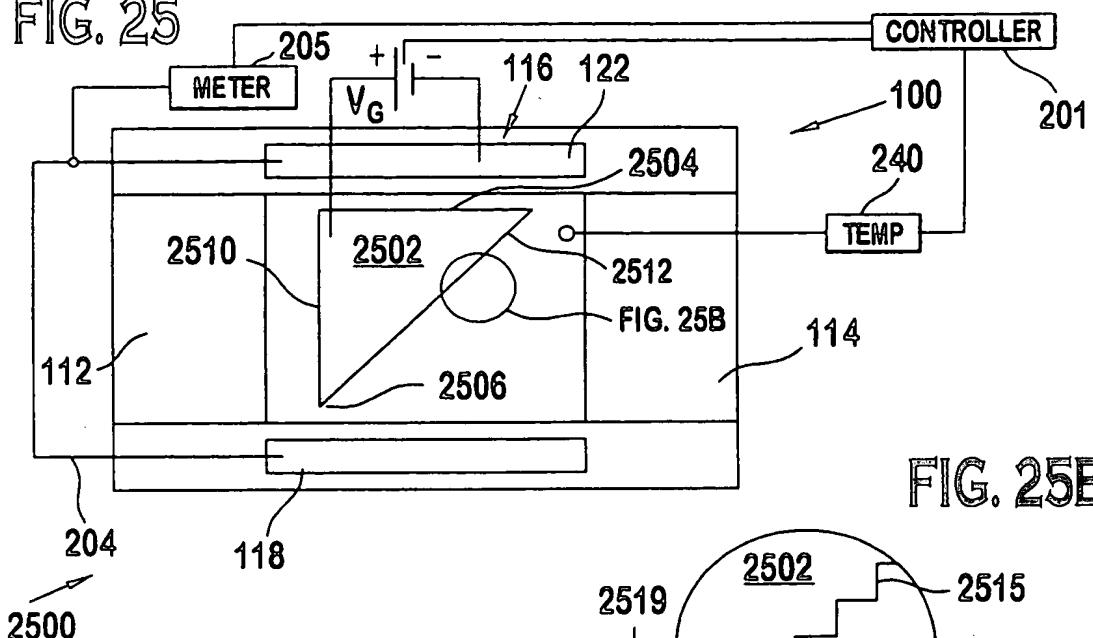
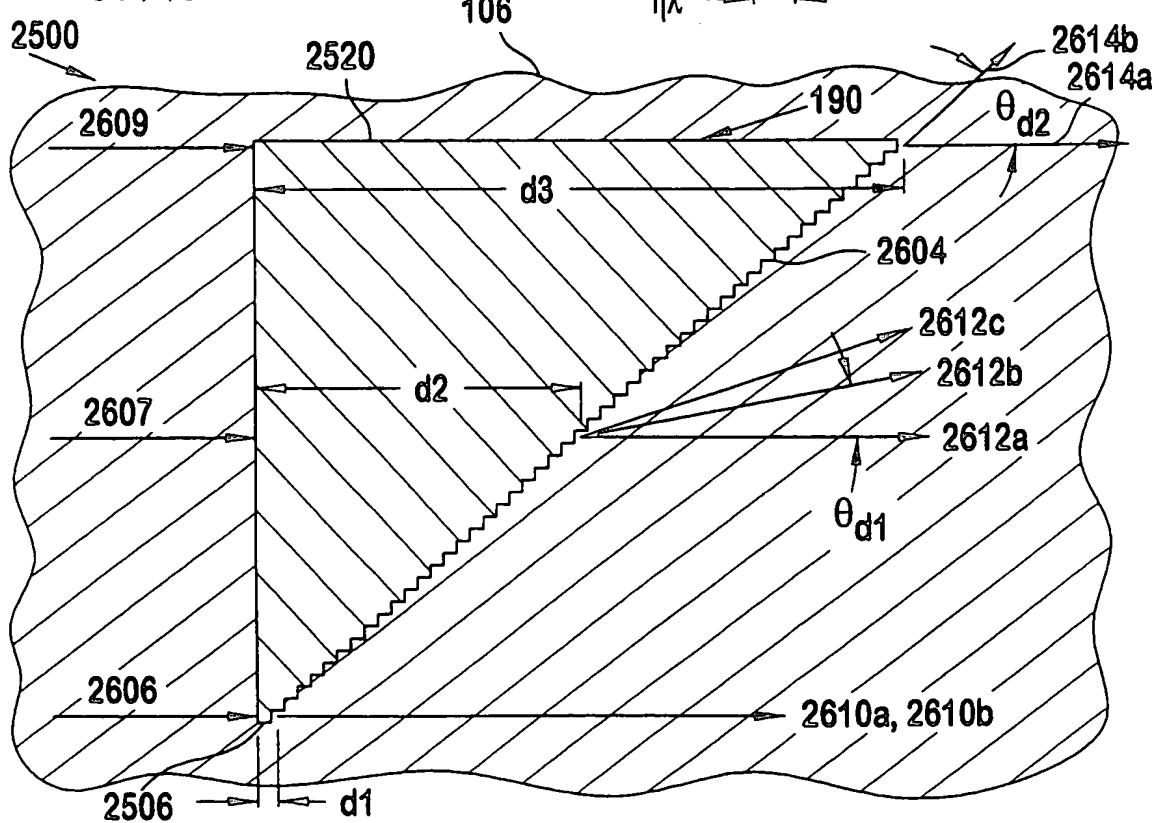


FIG. 25B

FIG. 26





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FIG. 27

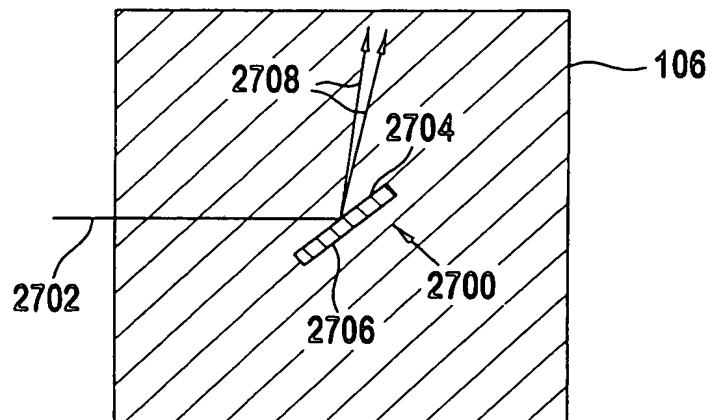


FIG. 28

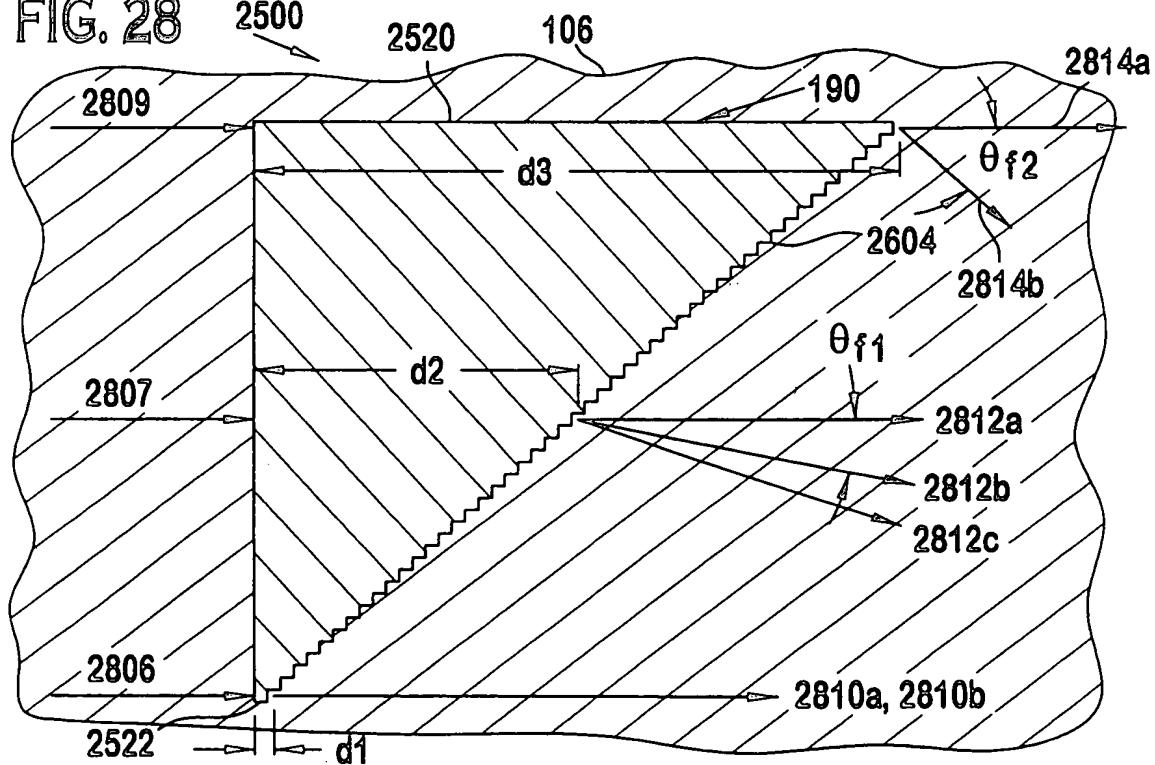


FIG. 29

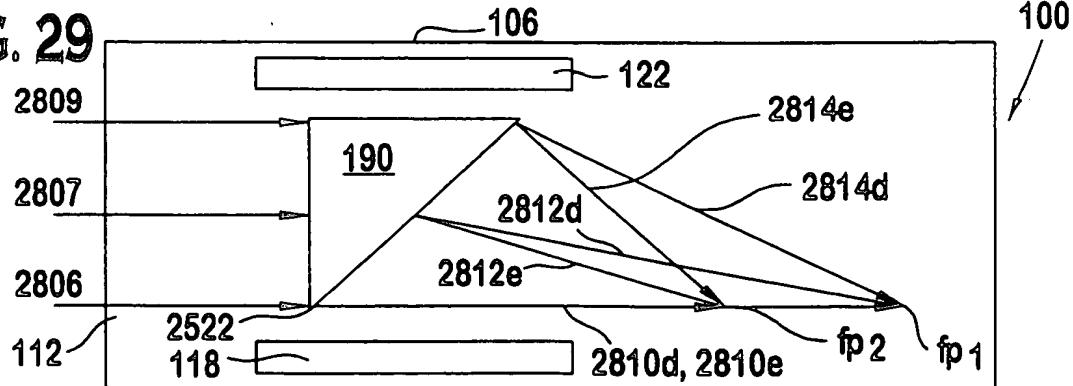
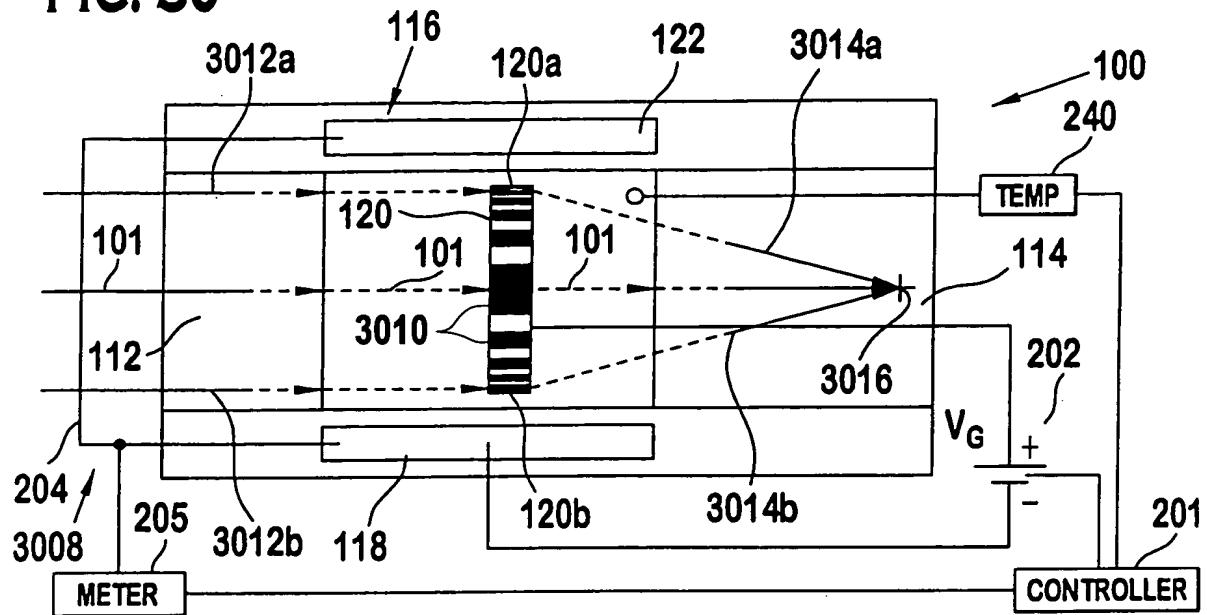




FIG. 30



**FIG. 30A**

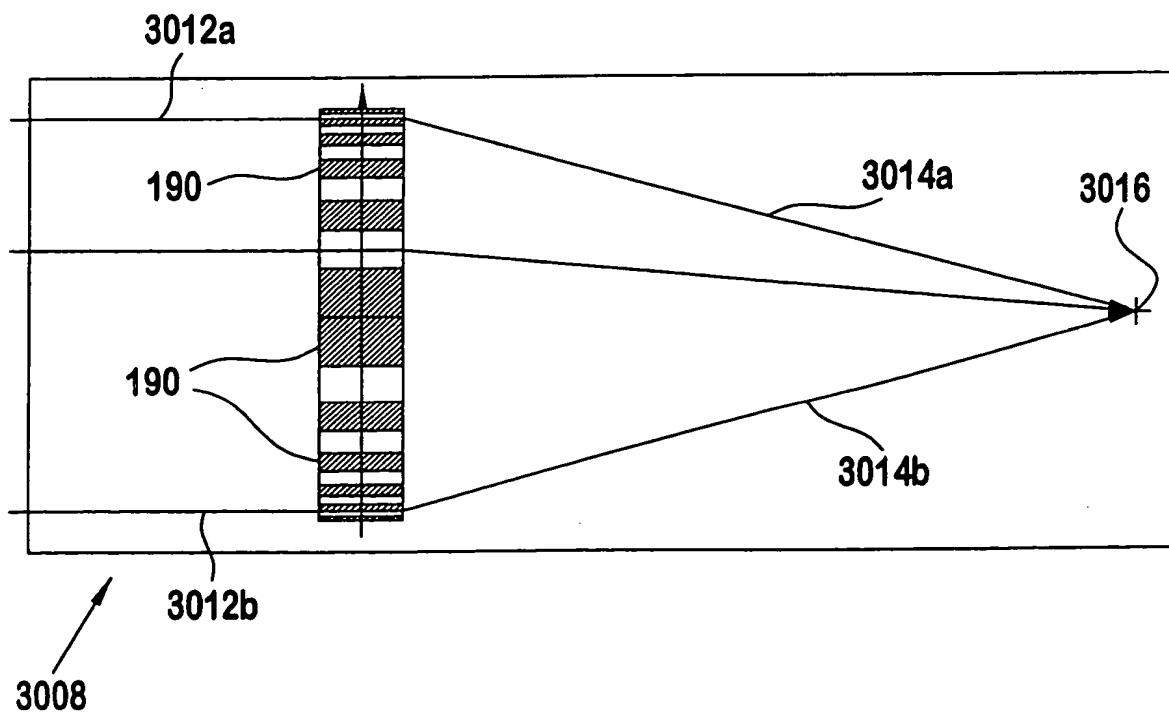




FIG. 31

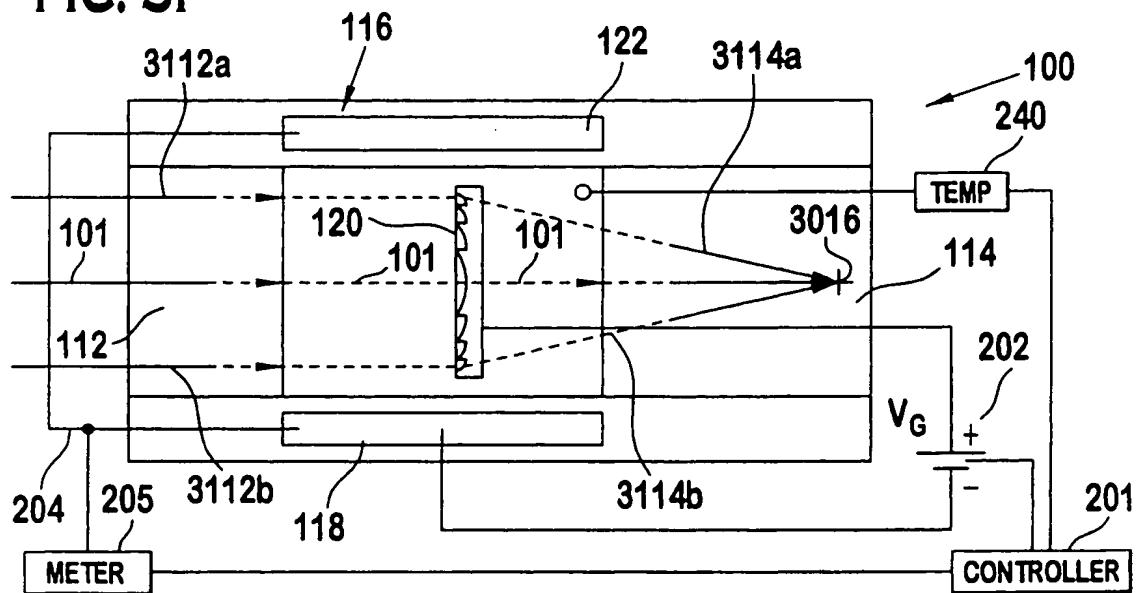
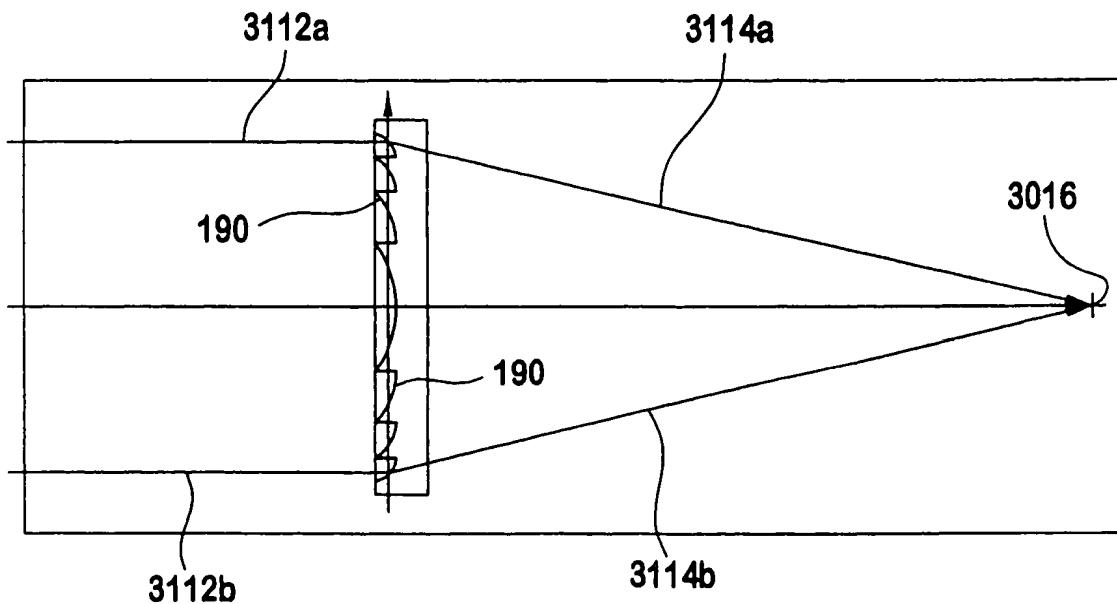
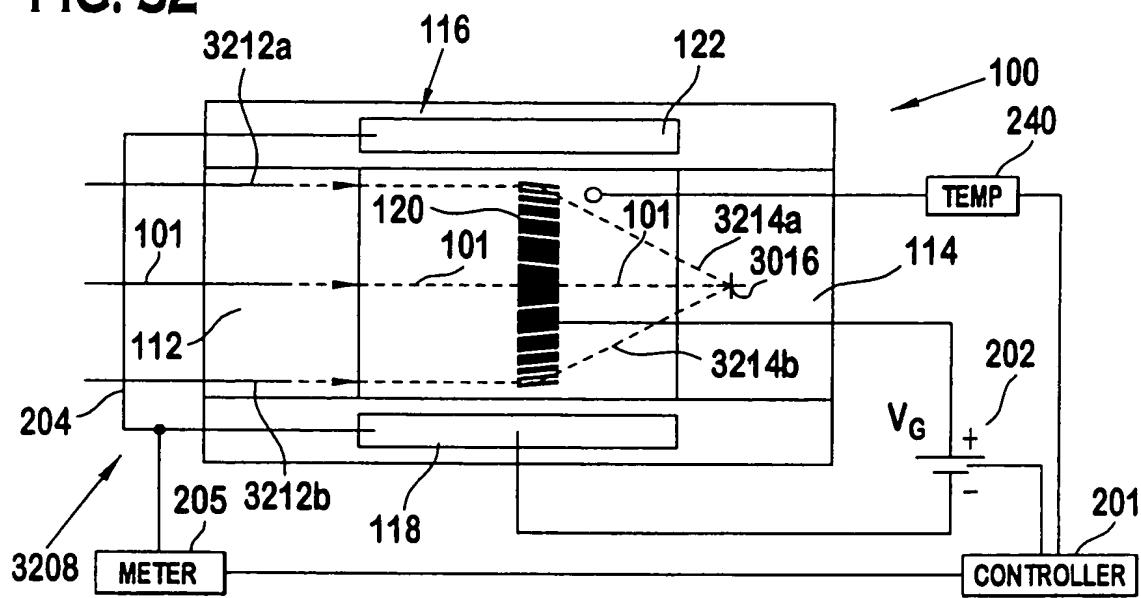


FIG. 31 A



**FIG. 32**



**FIG. 32A**

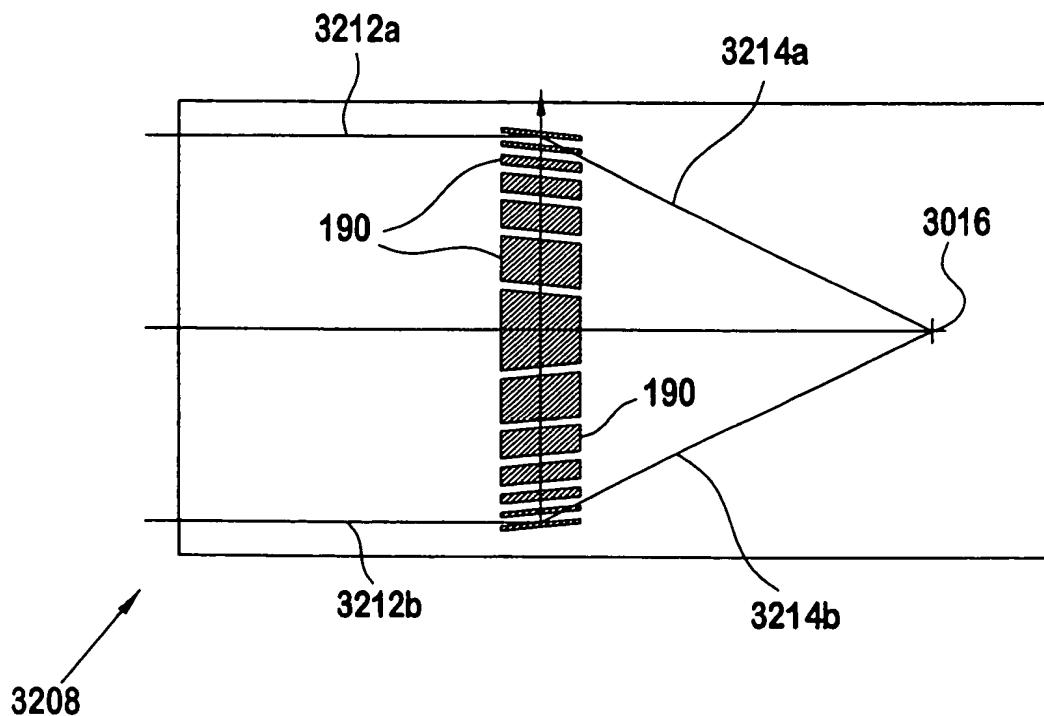


FIG. 33

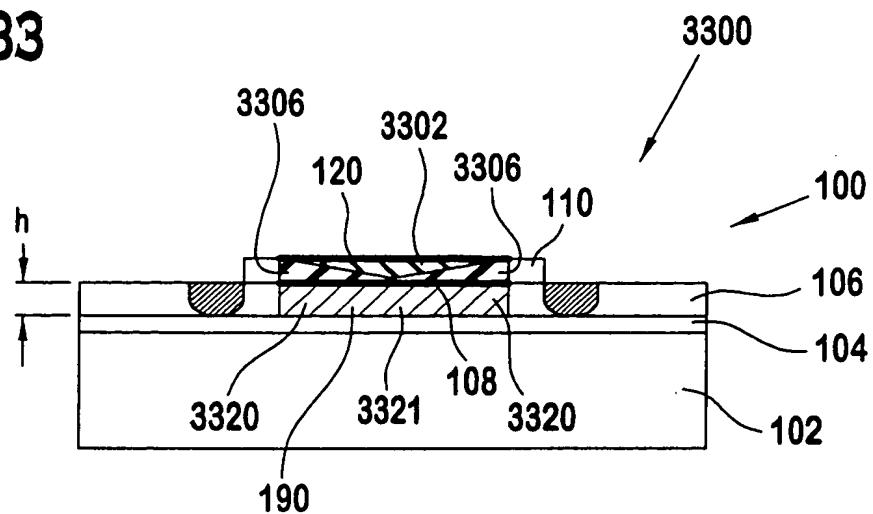


FIG. 34

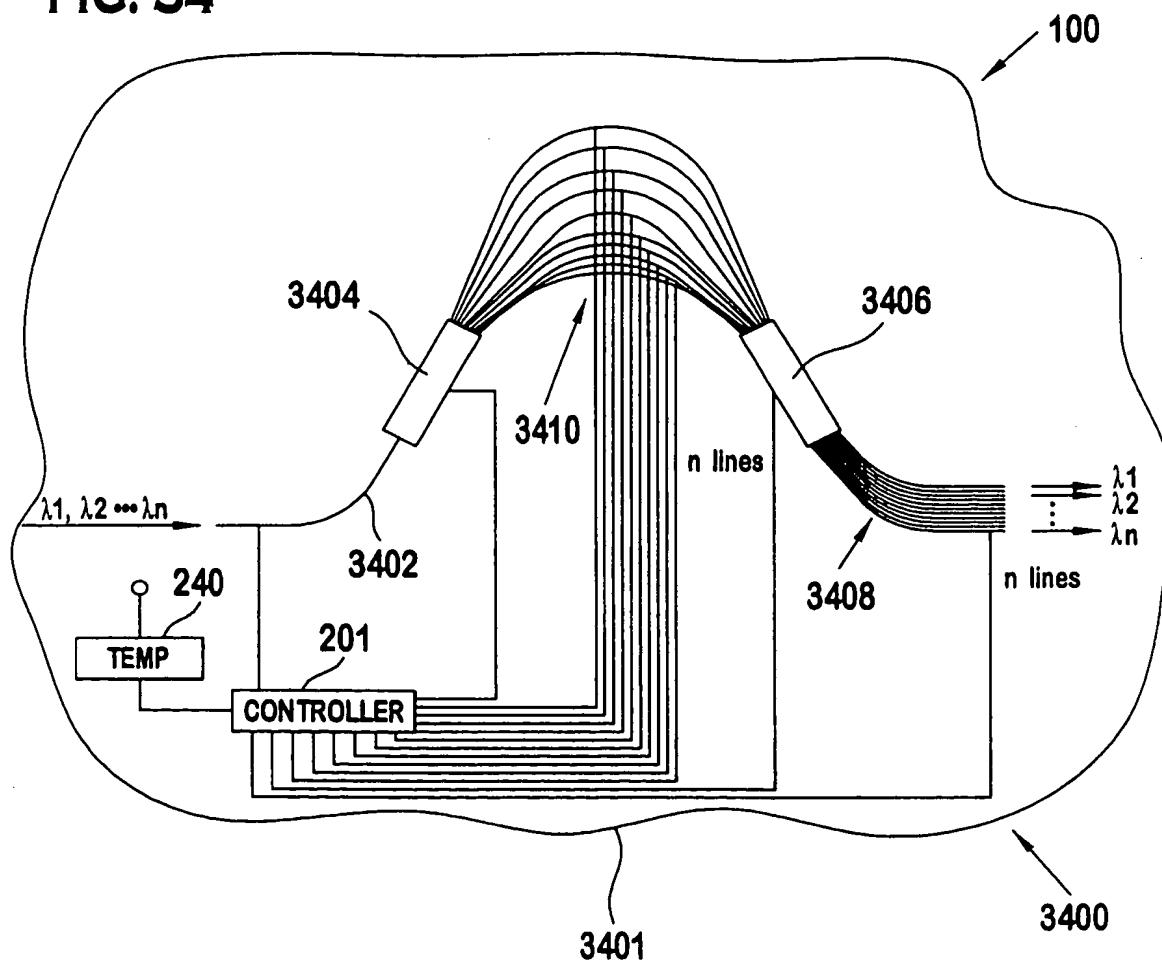


FIG. 35

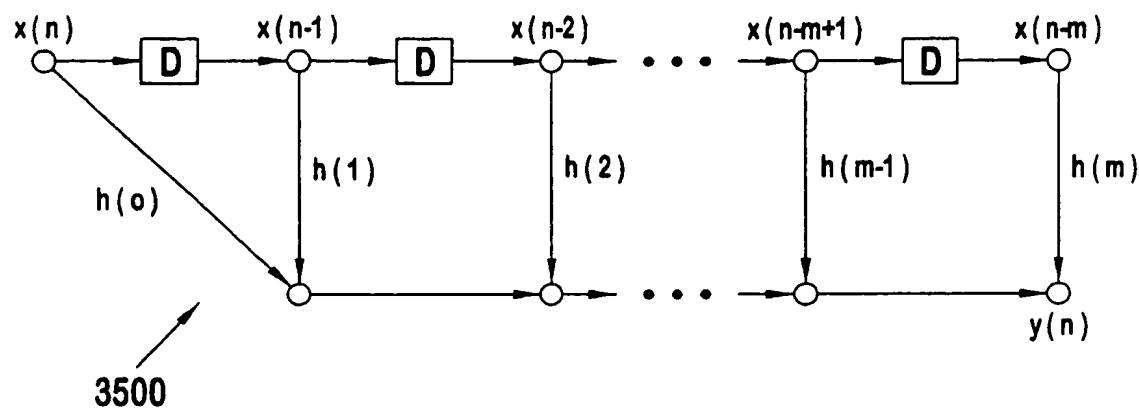


FIG. 36

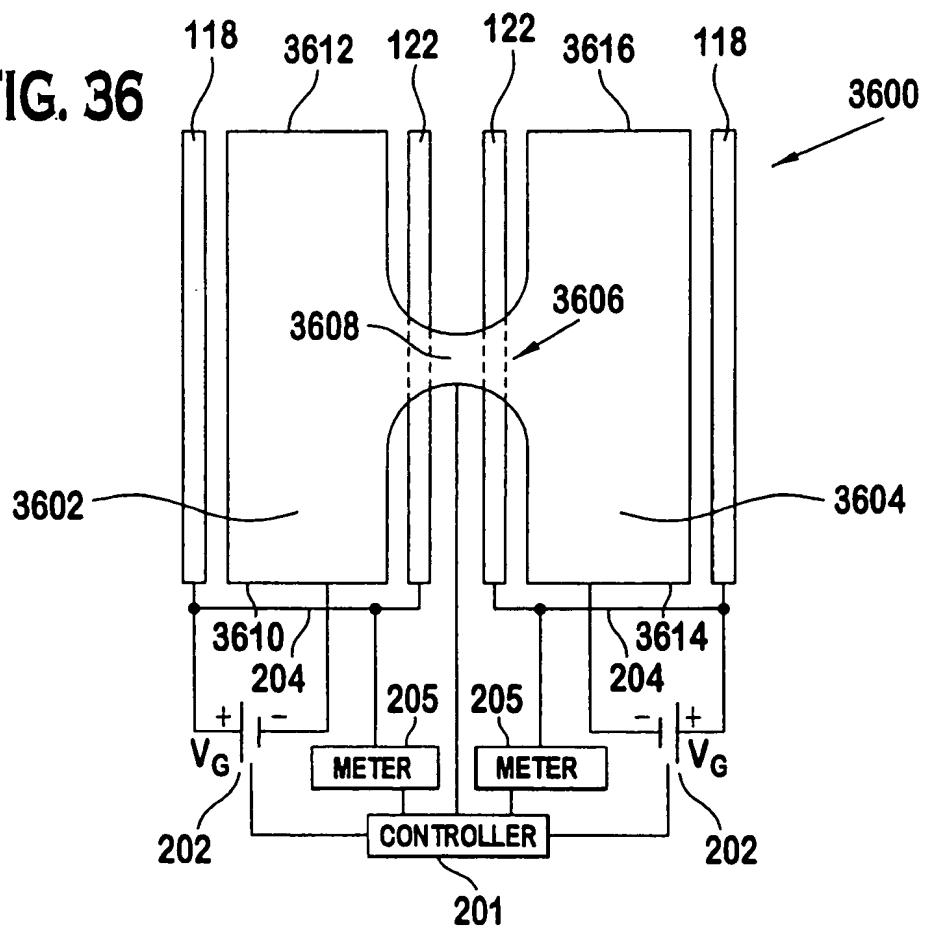


FIG. 37

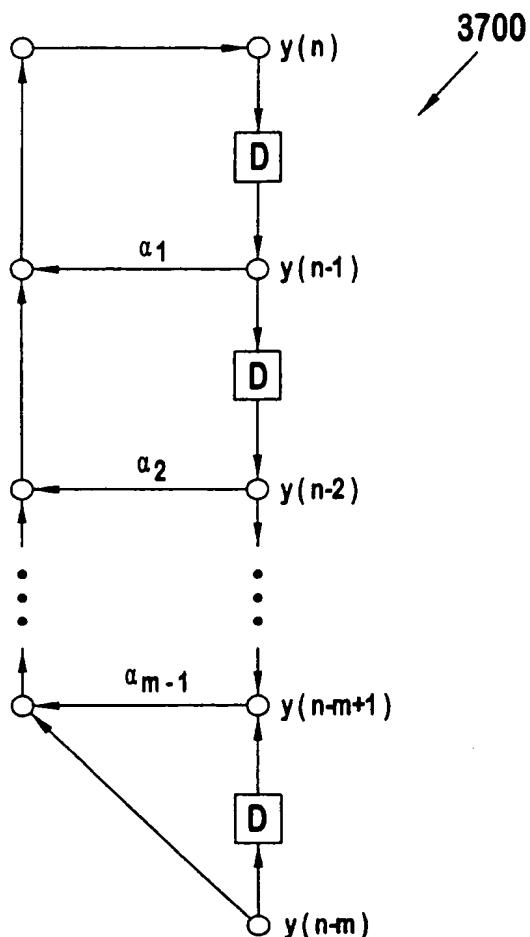
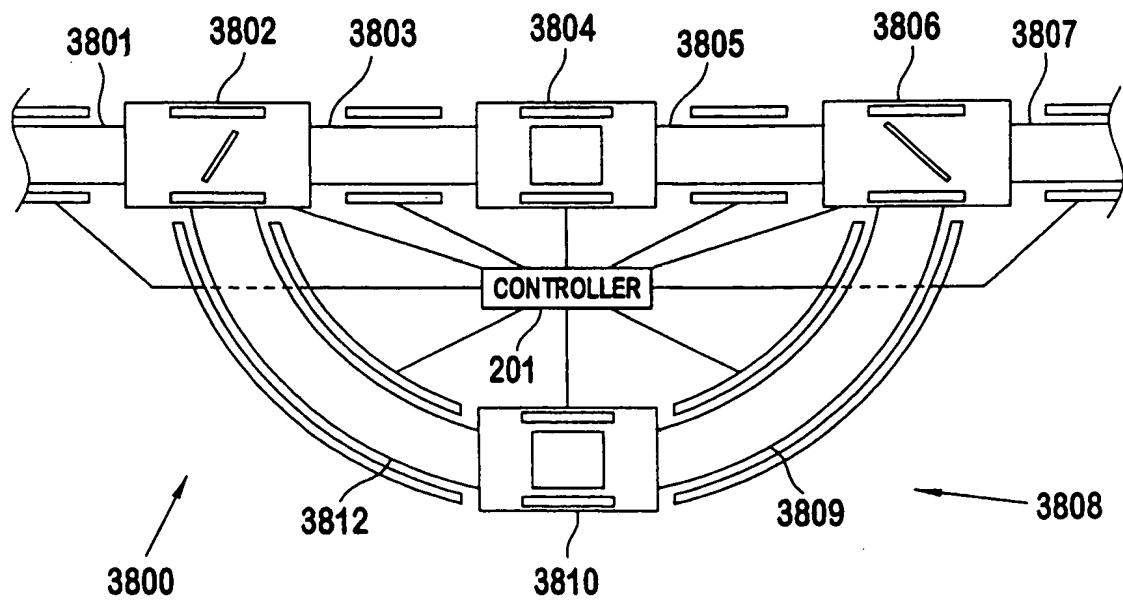


FIG. 38





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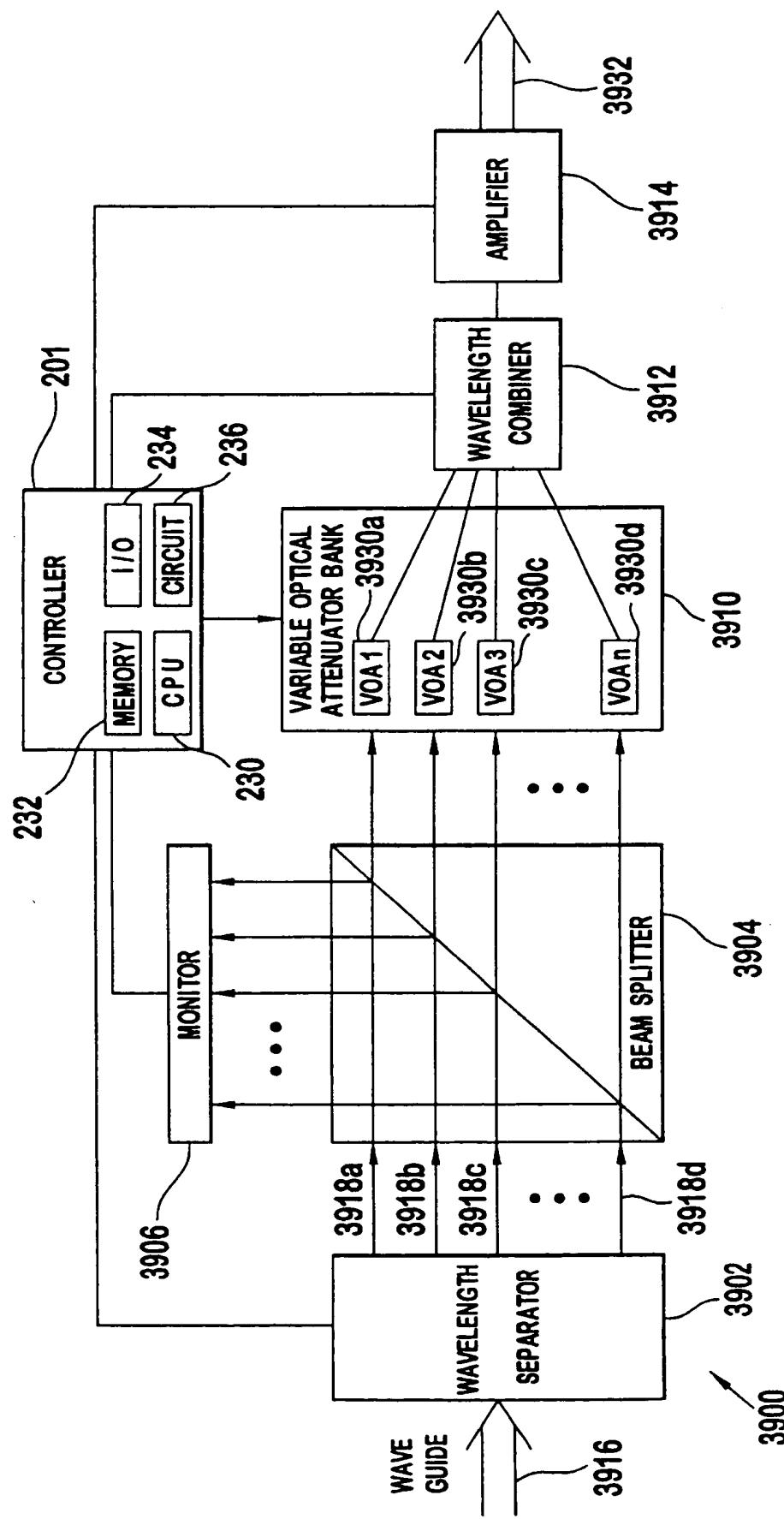
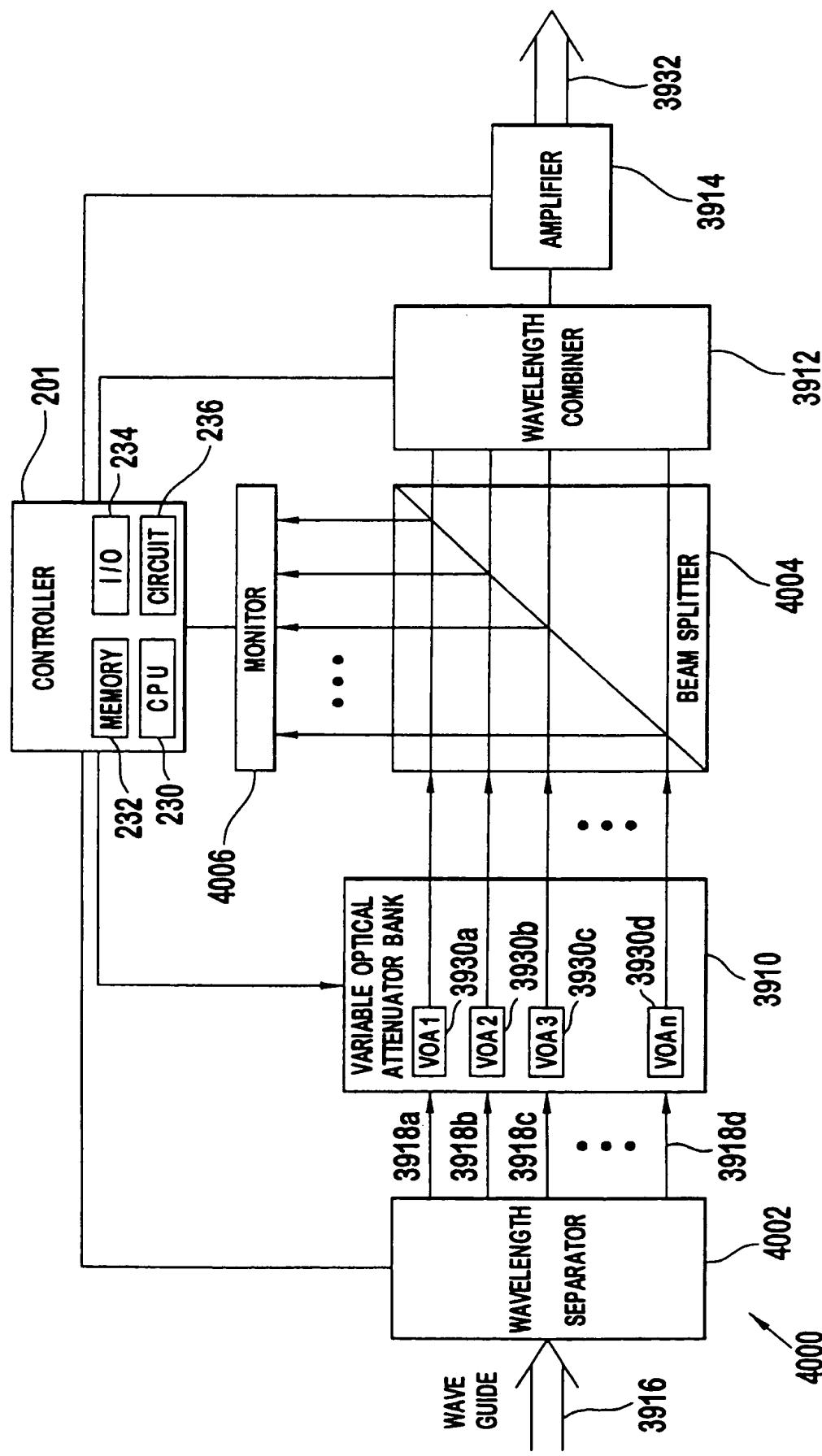


FIG. 39



FIG. 40



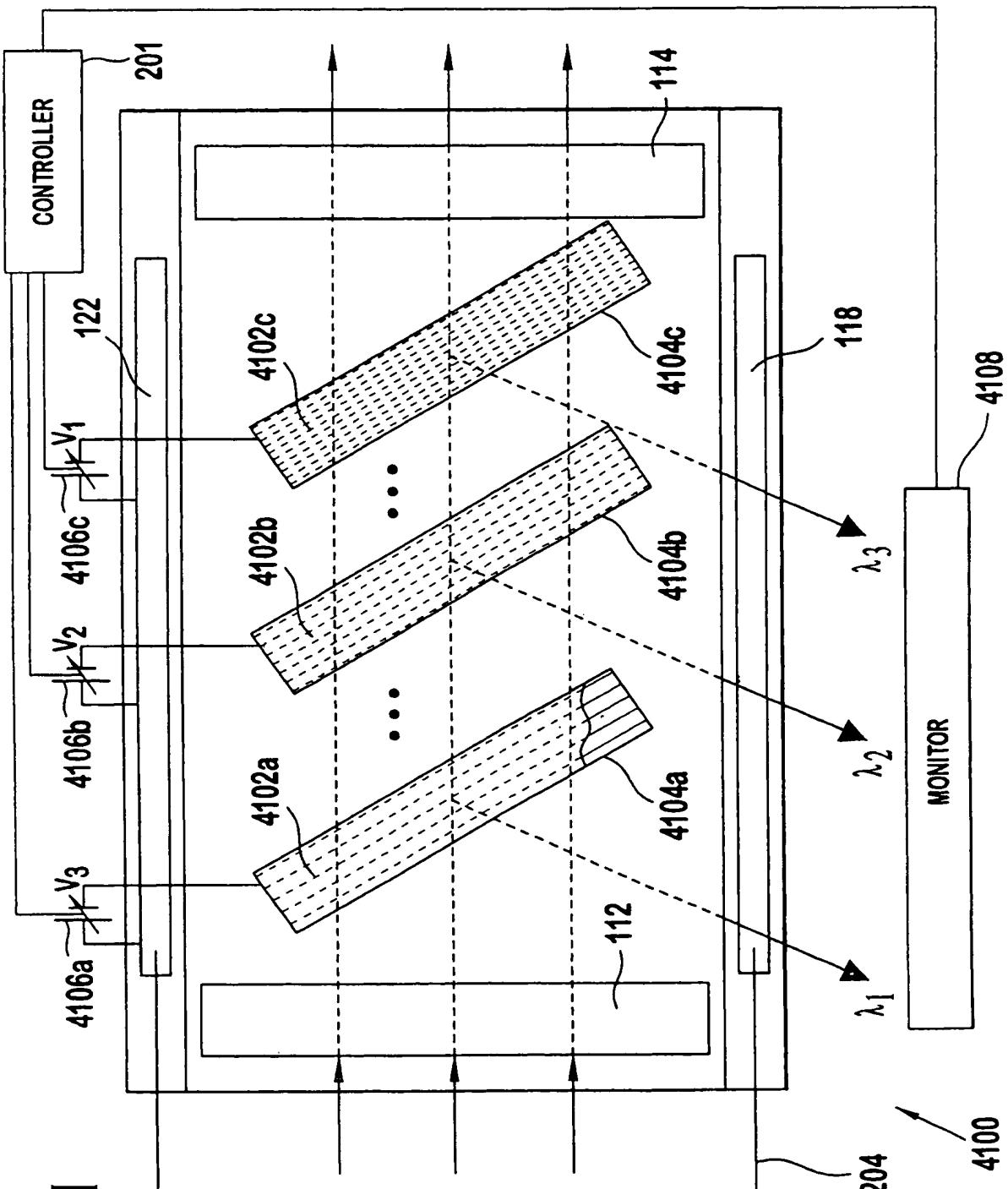
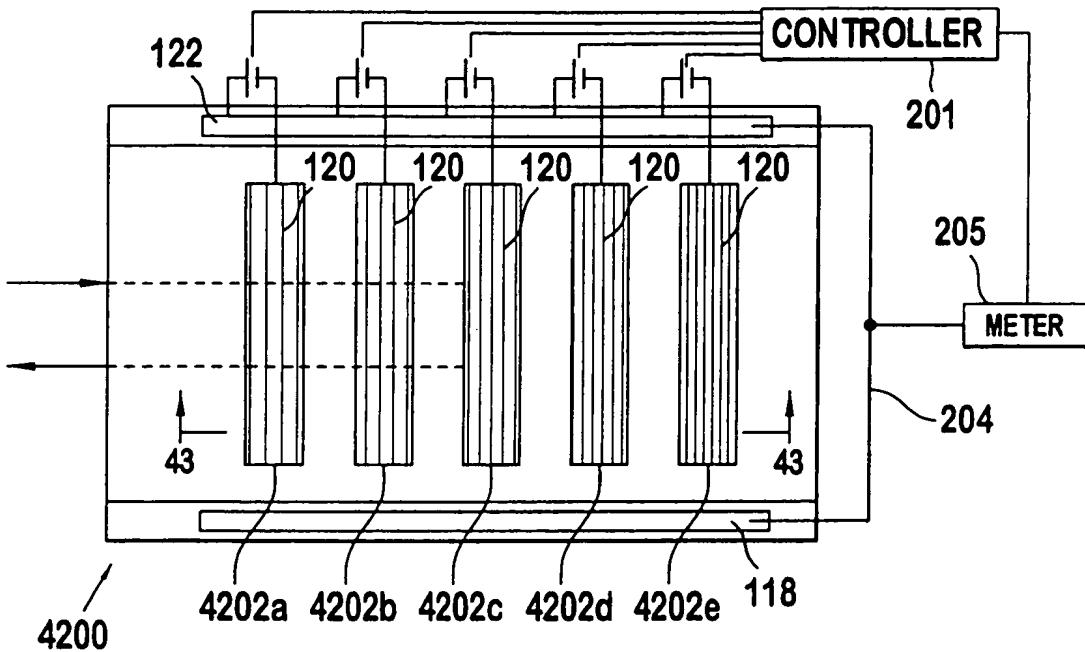


FIG. 41

**FIG. 42**



**FIG. 43**

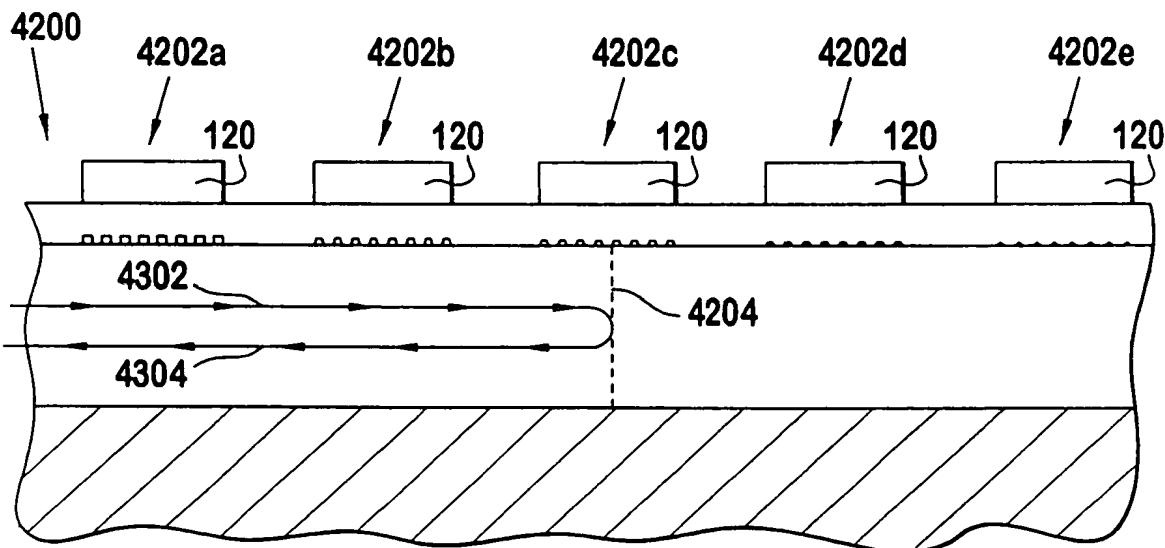




FIG. 44

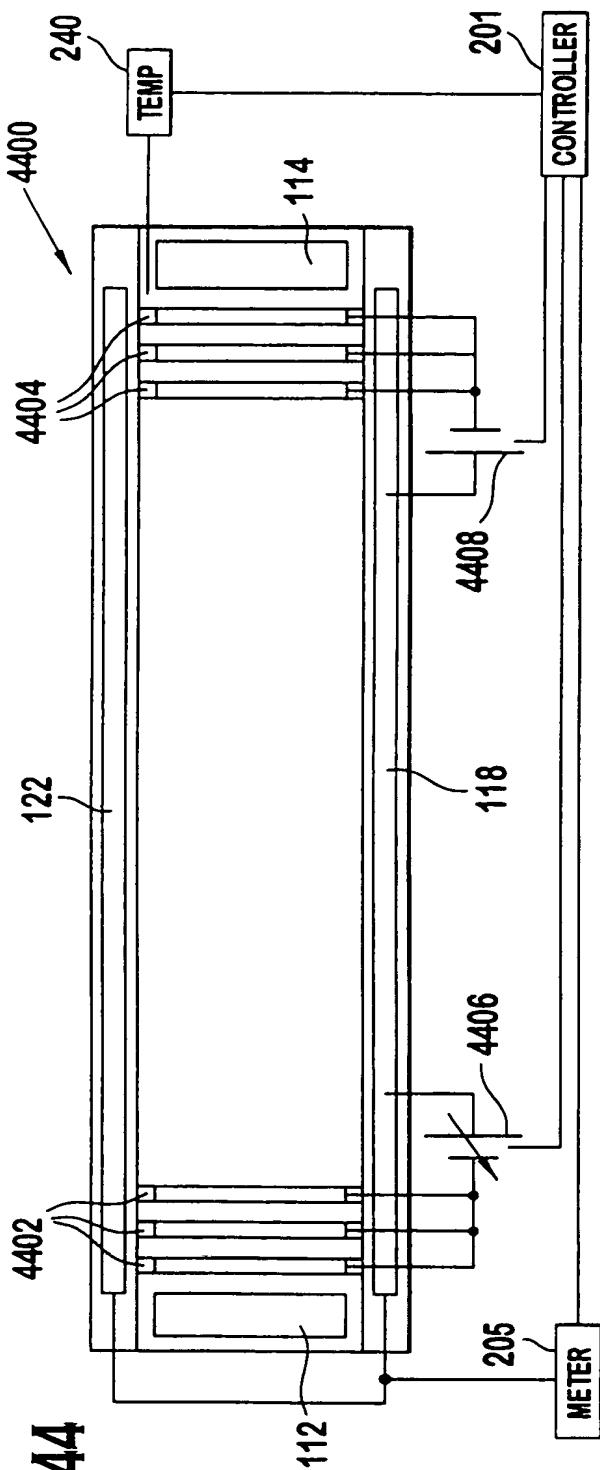
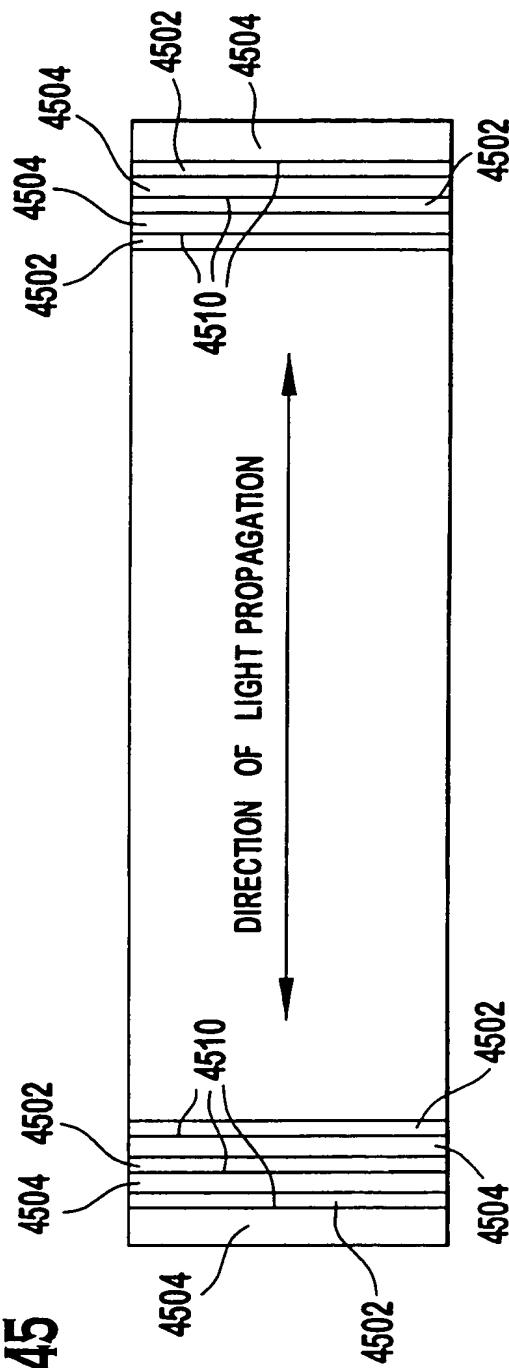


FIG. 45



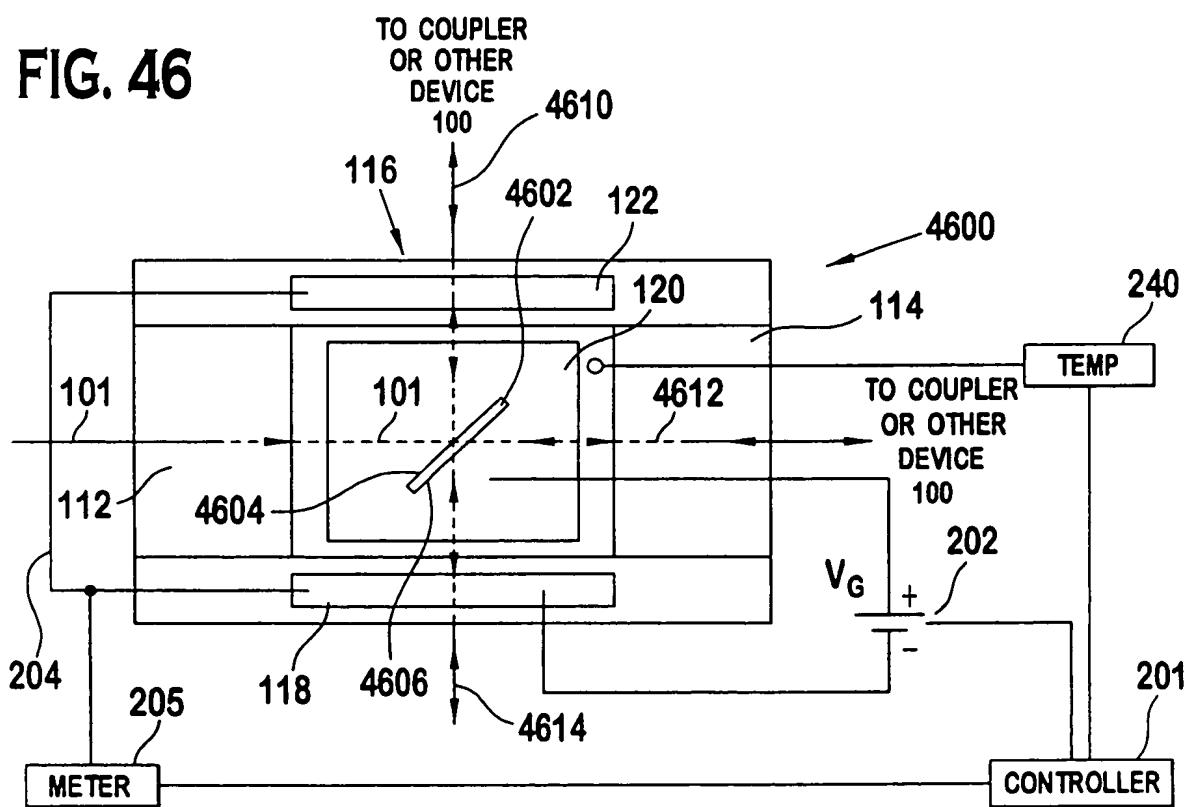
**FIG. 46**

FIG. 47

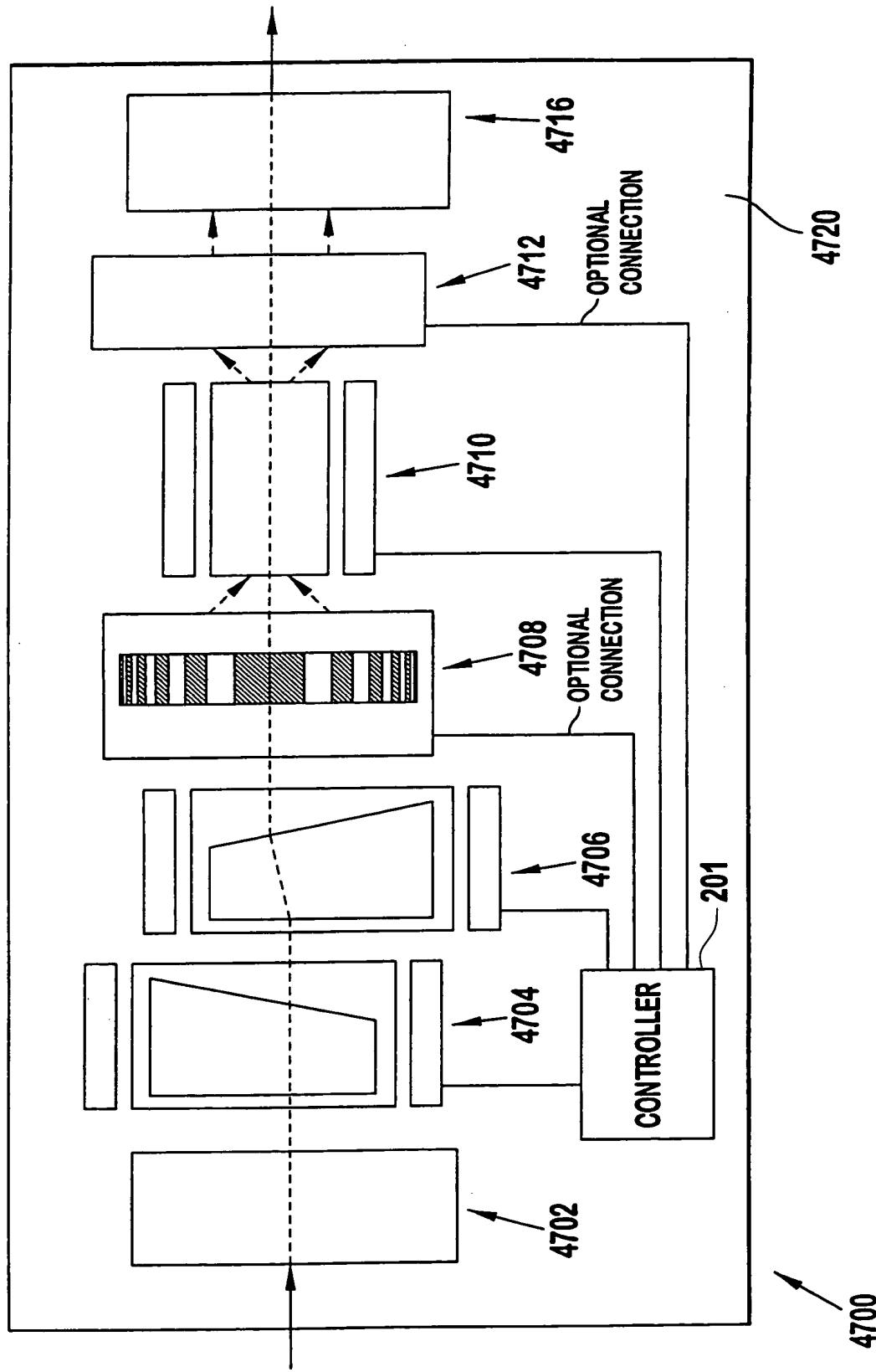


FIG. 48

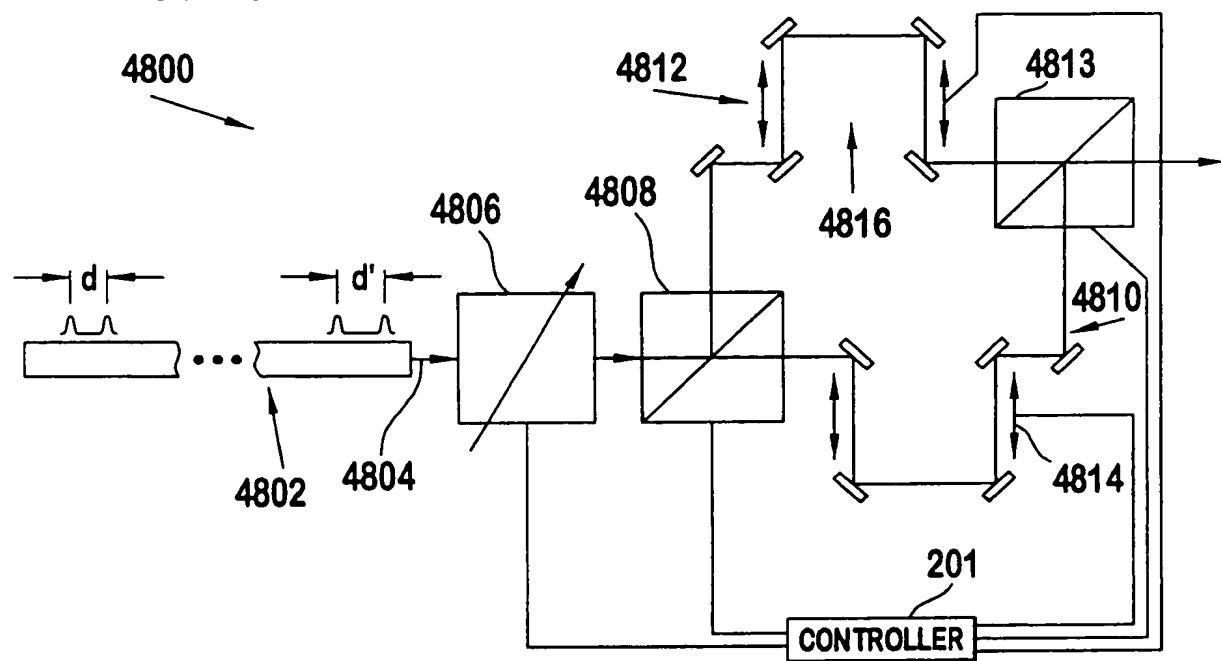


FIG. 49

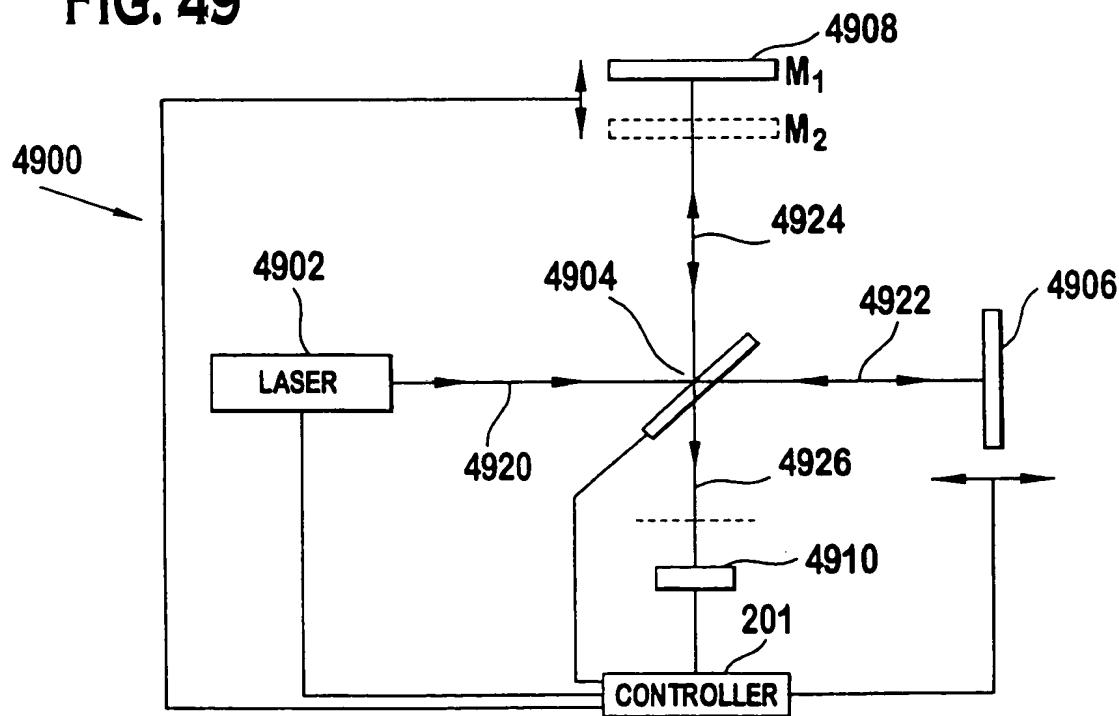
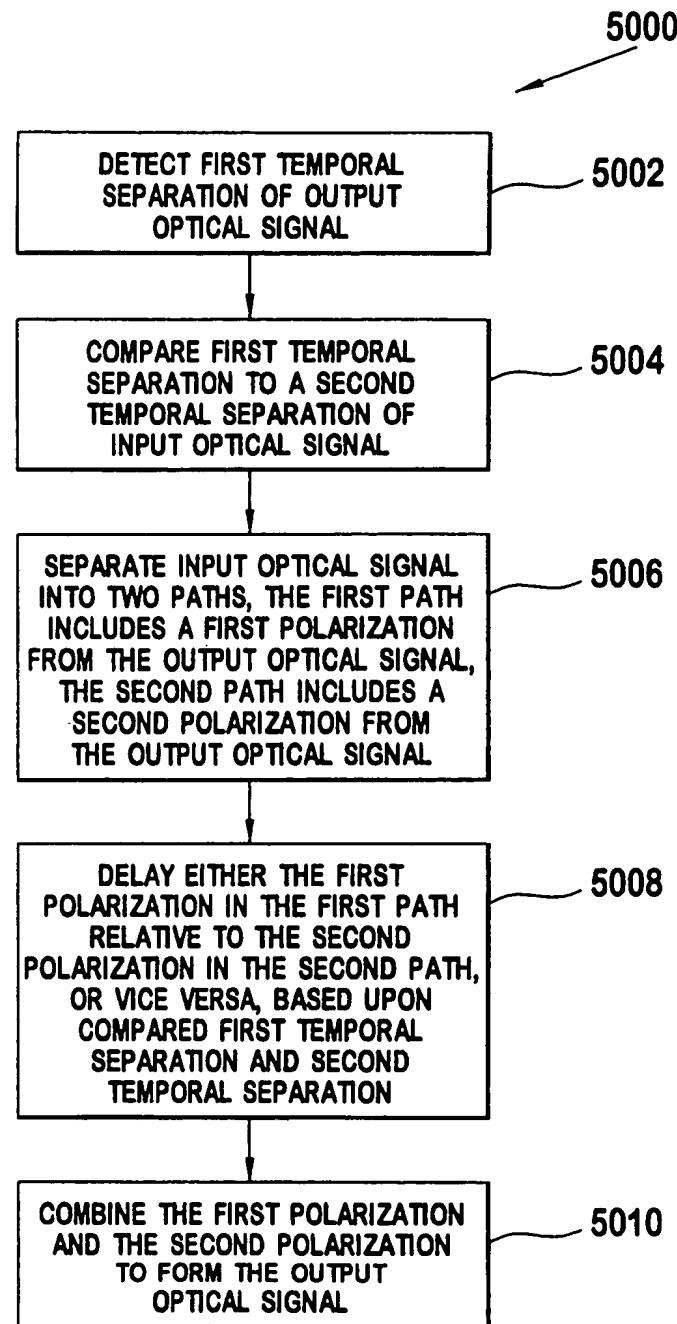
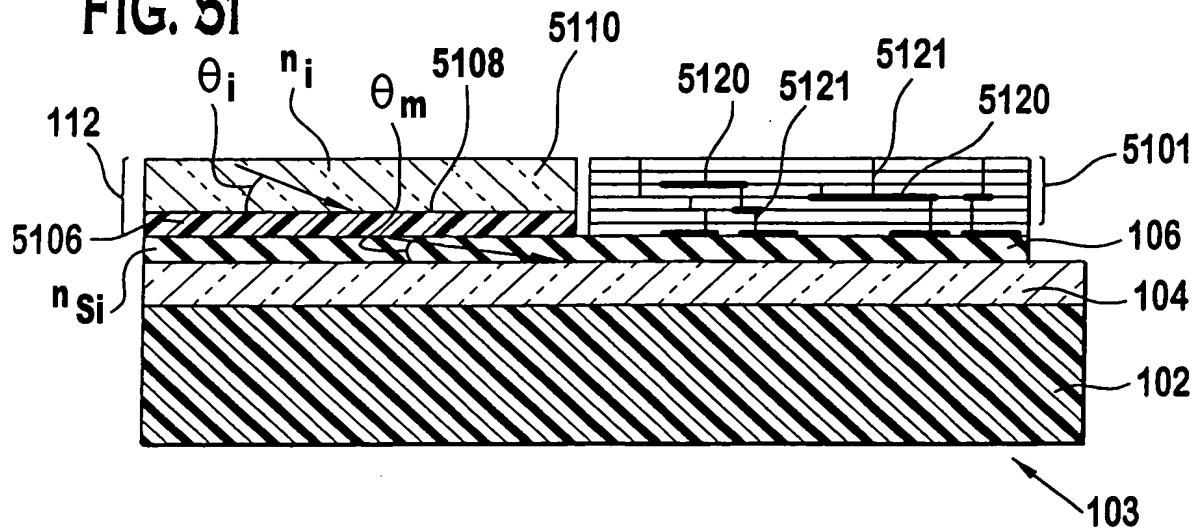
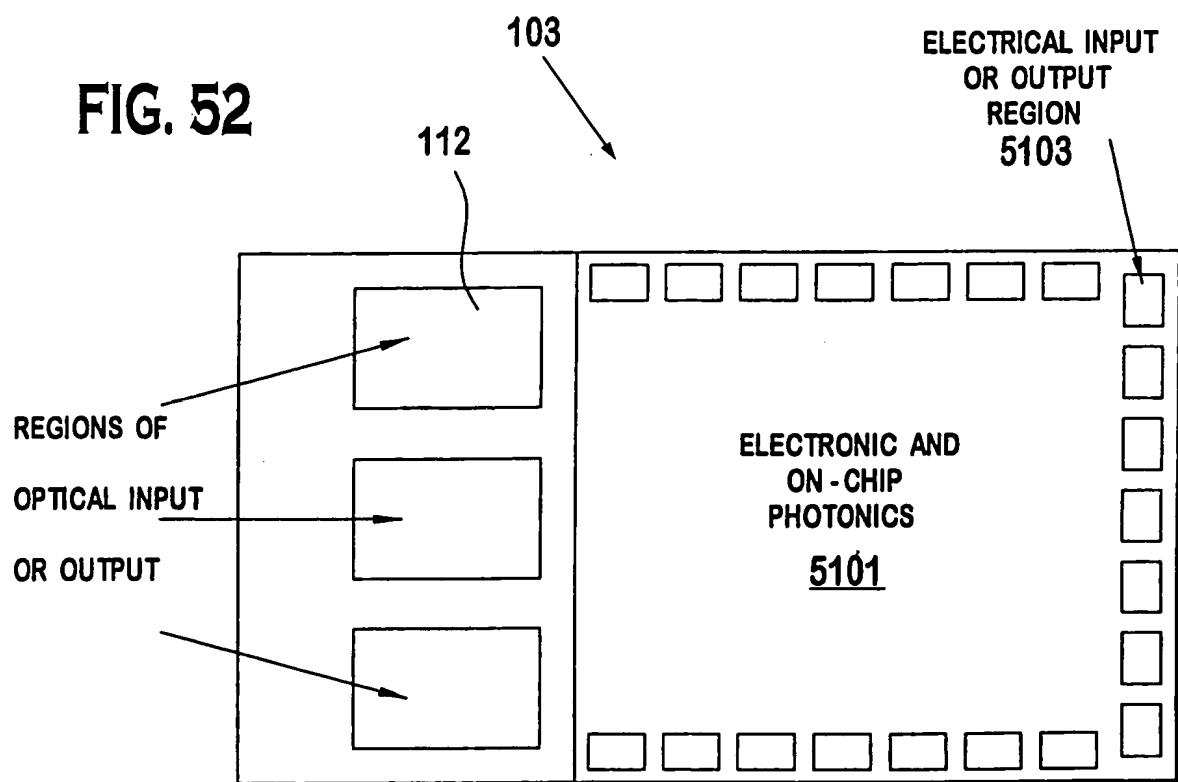


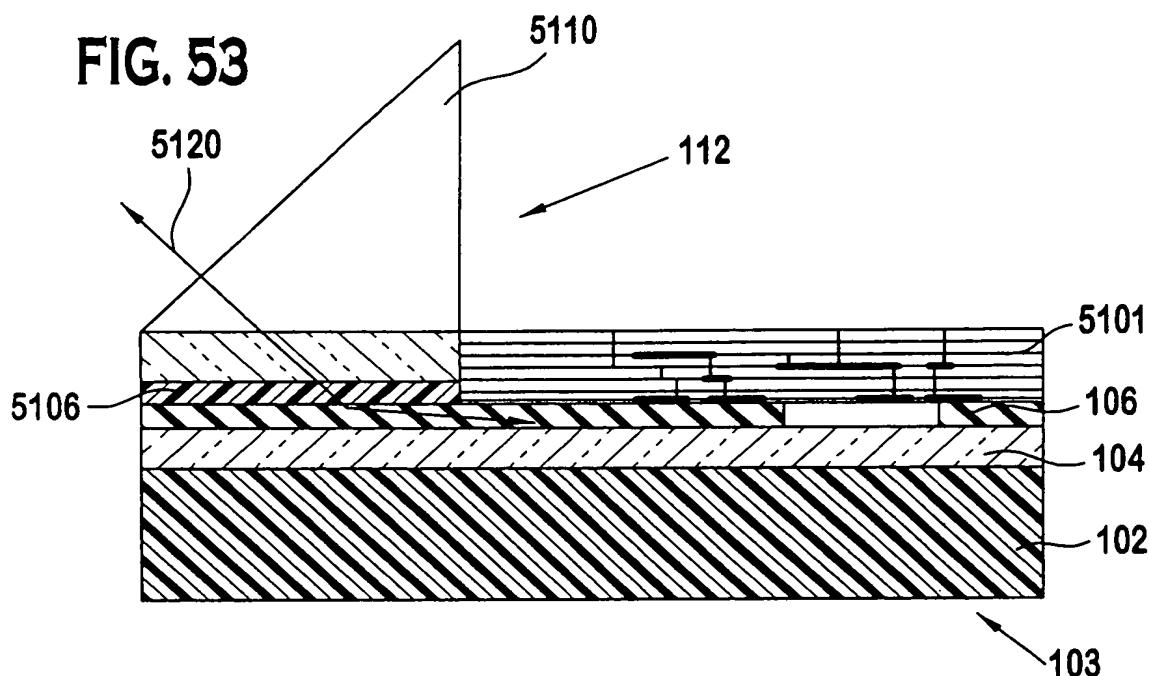


FIG. 50

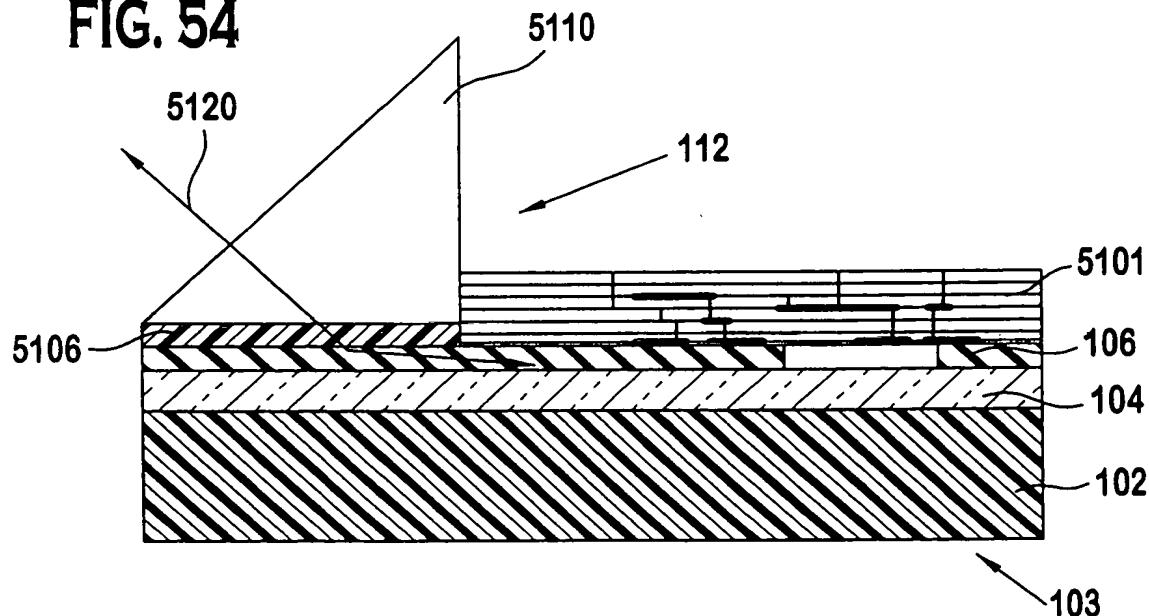


**FIG. 51****FIG. 52**

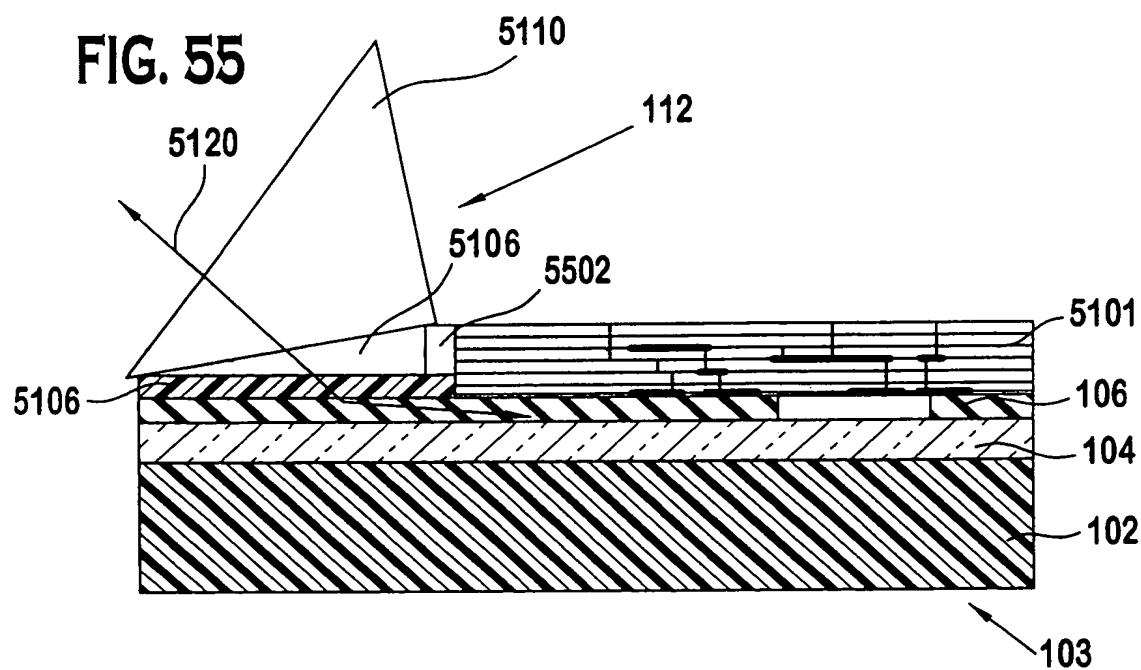
**FIG. 53**



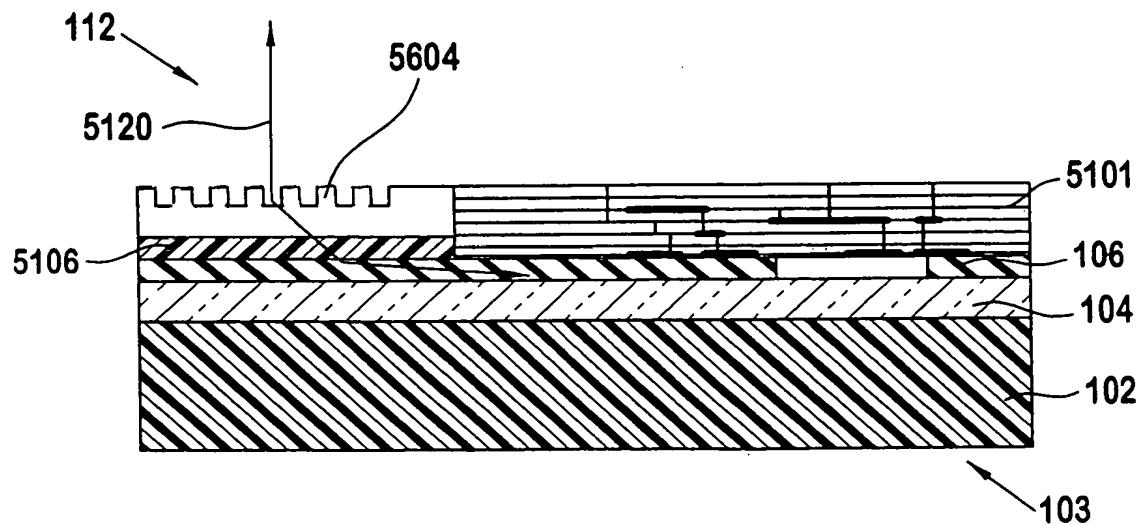
**FIG. 54**



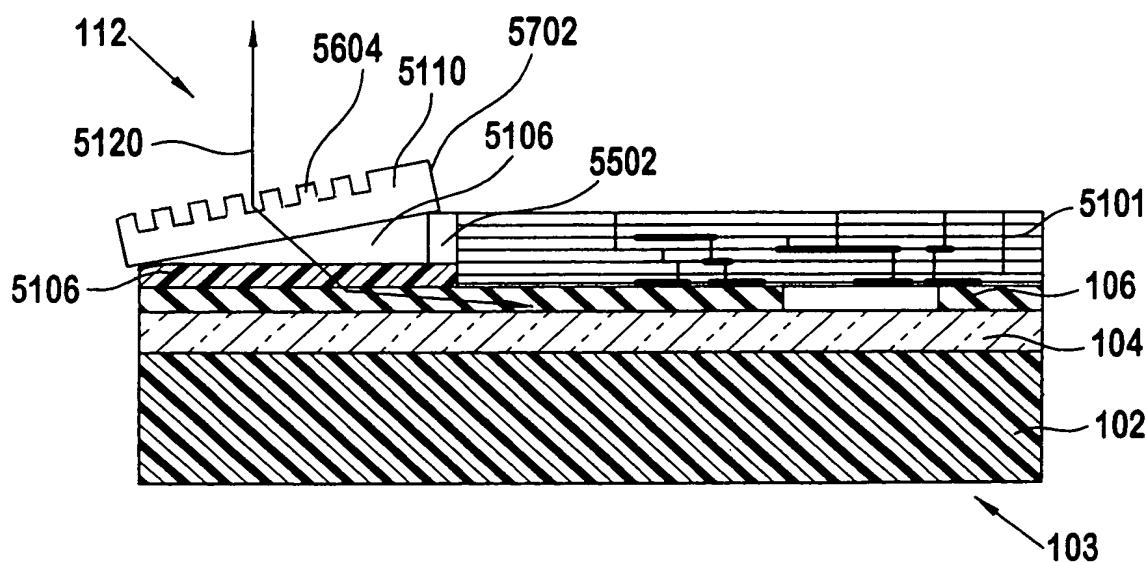
**FIG. 55**



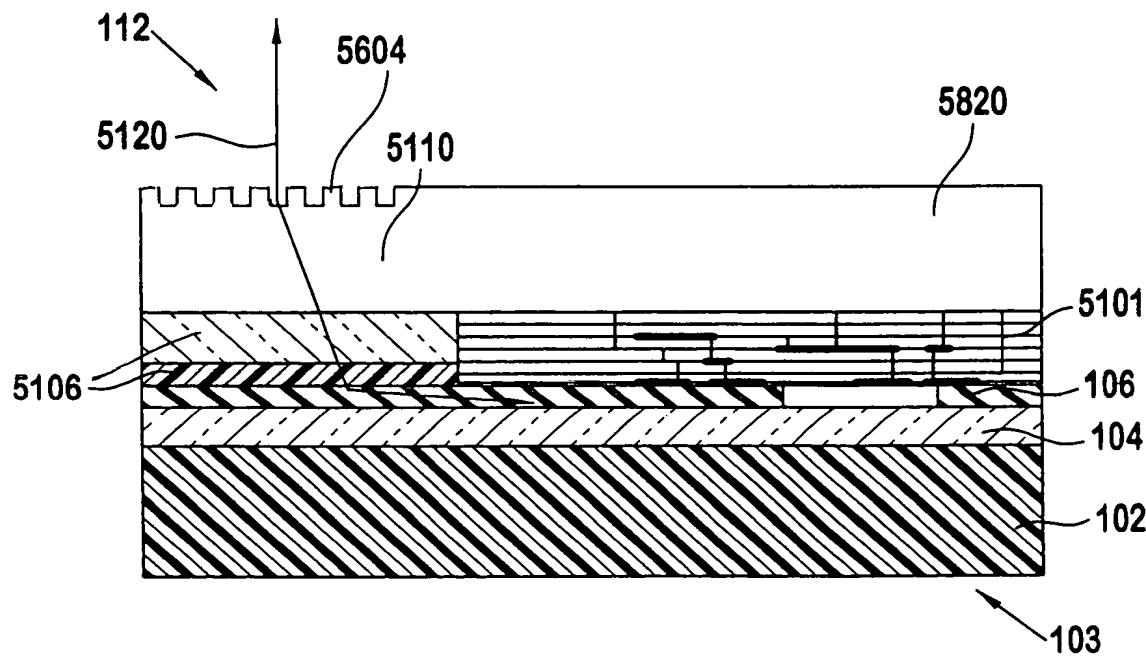
**FIG. 56**

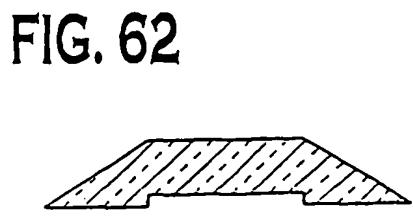
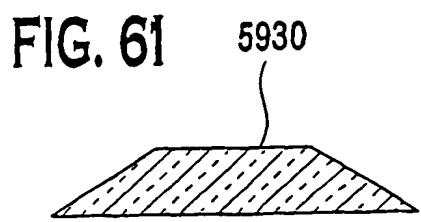
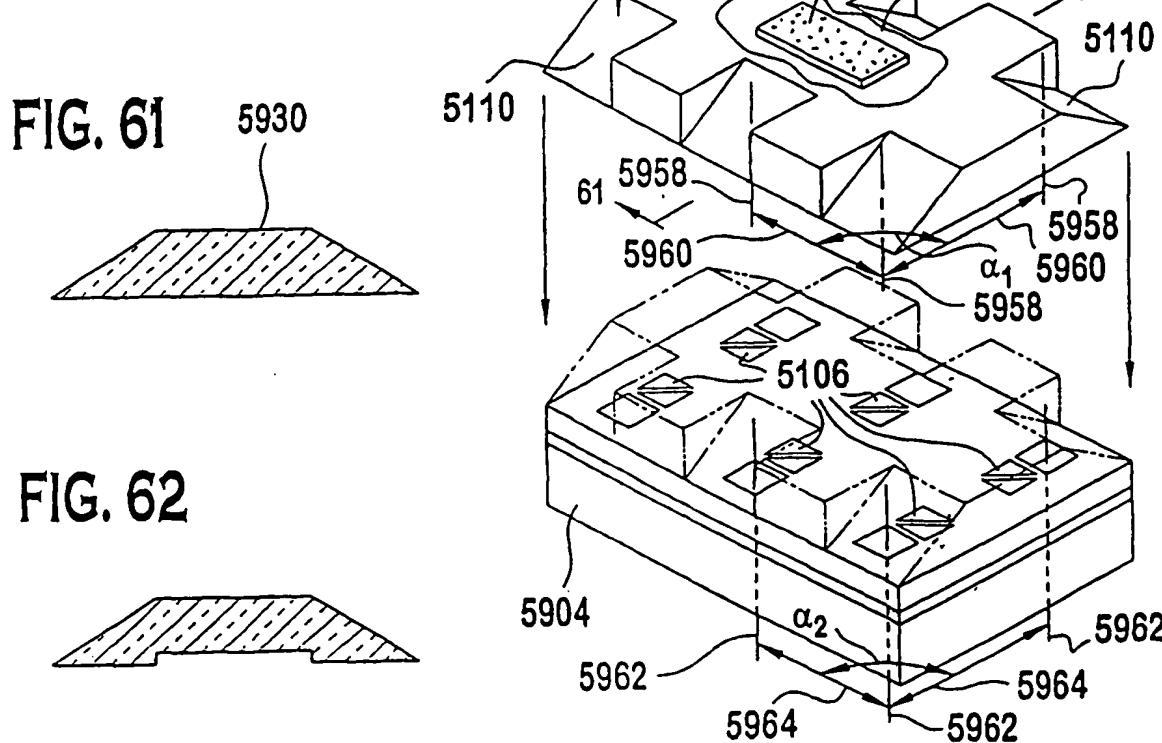
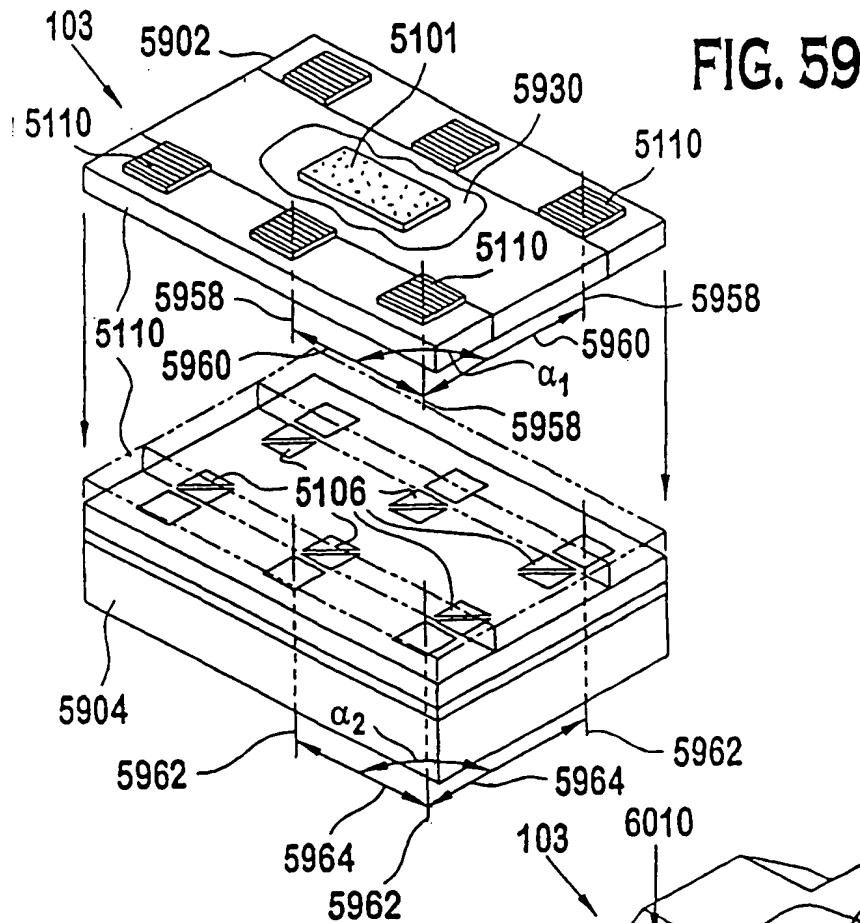


**FIG. 57**

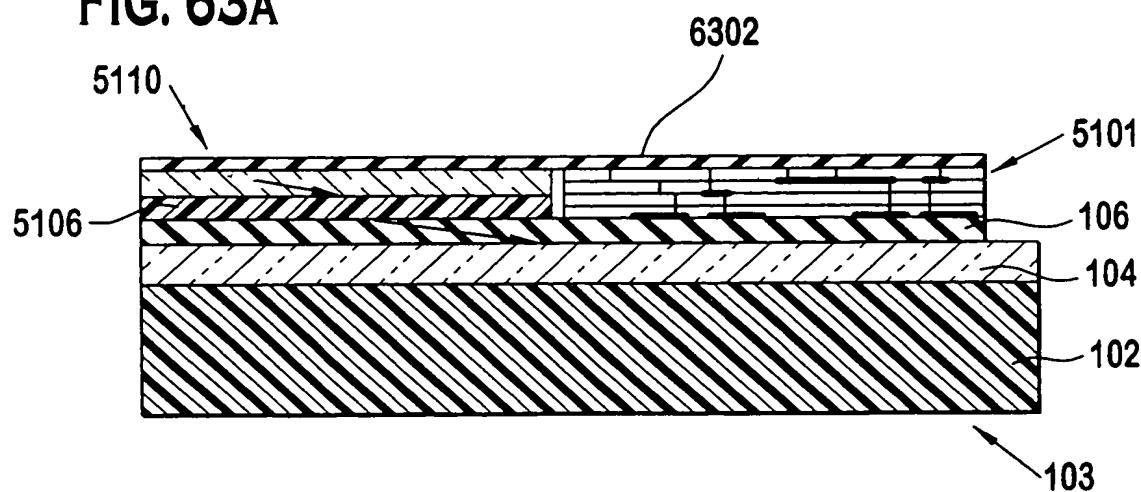


**FIG. 58**

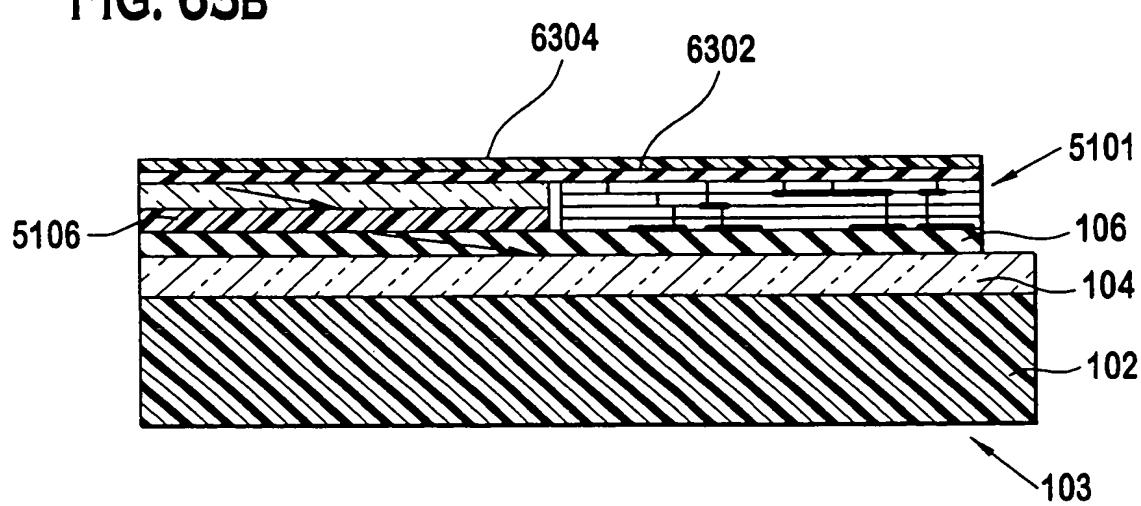




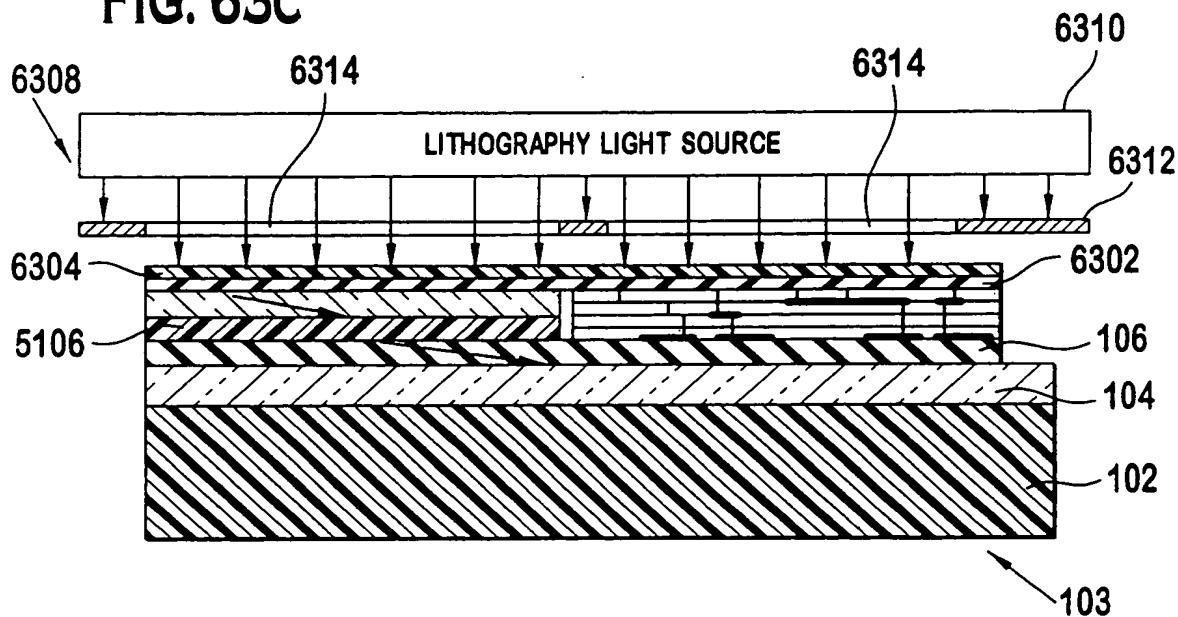
**FIG. 63A**



**FIG. 63B**



**FIG. 63C**



**FIG. 63D**

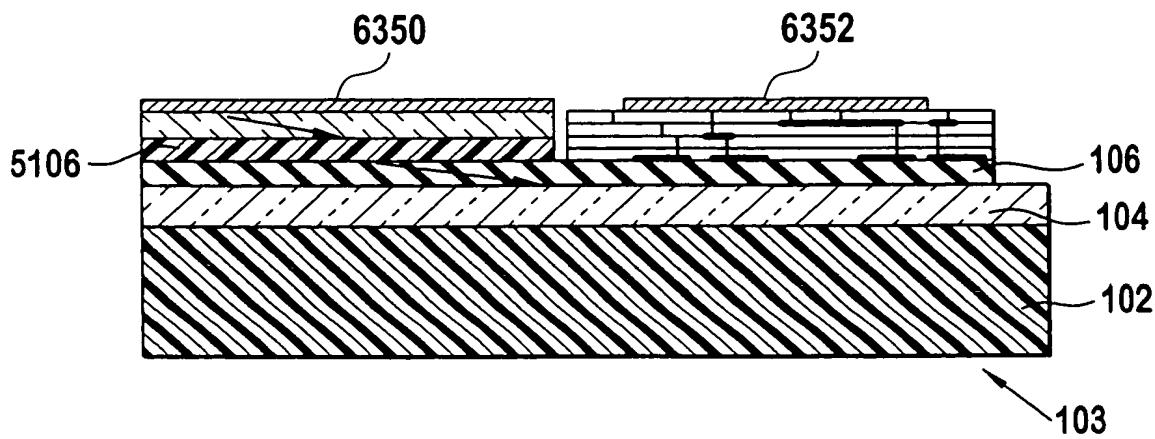




FIG. 64

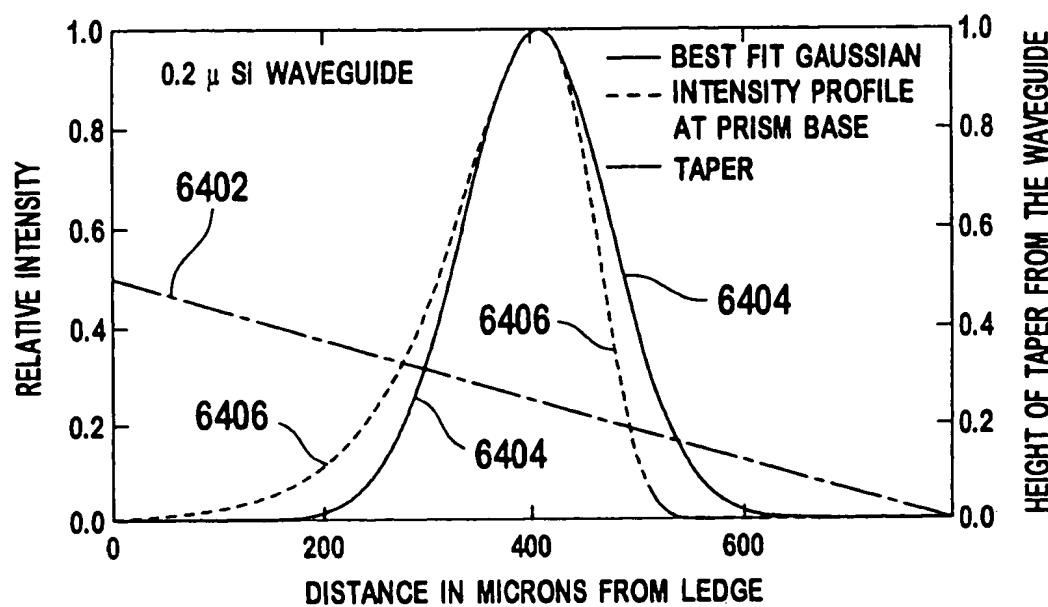
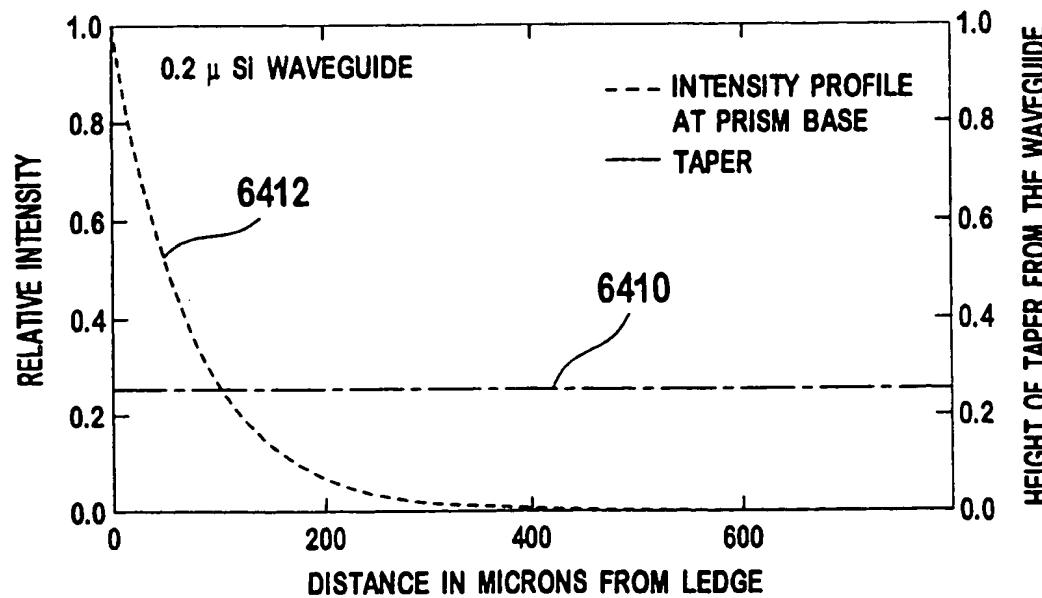


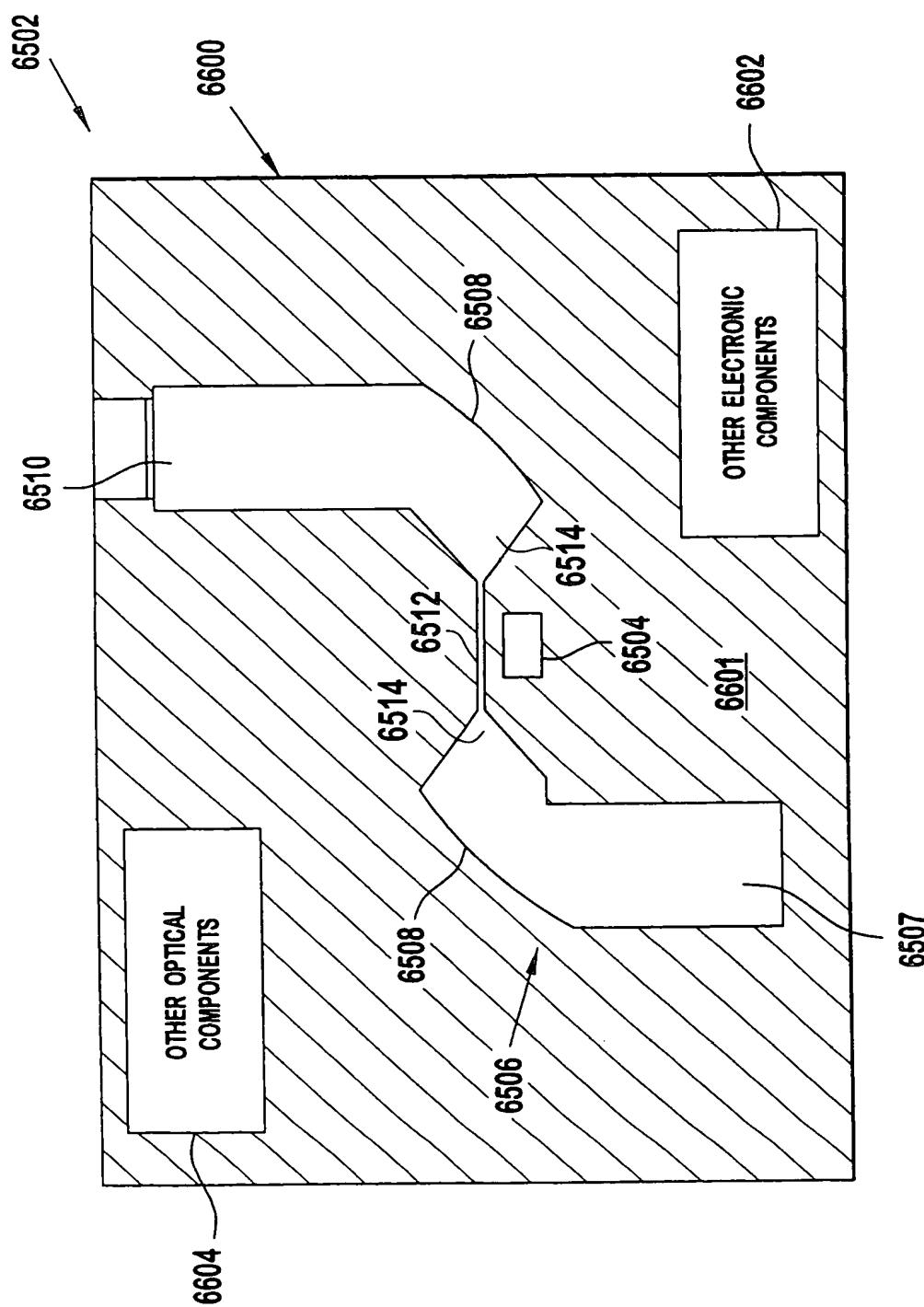
FIG. 65





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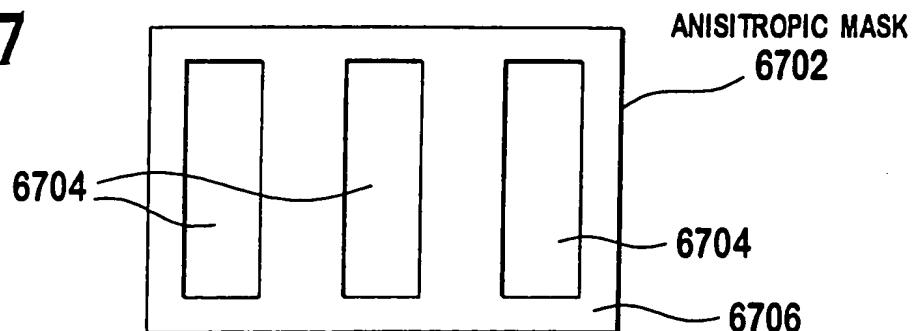
FIG. 66





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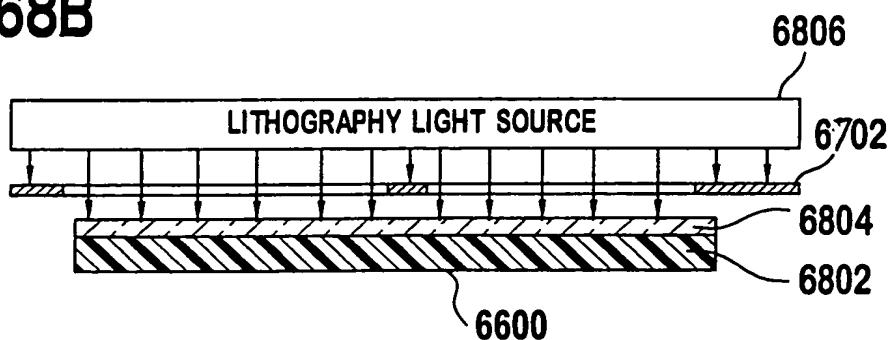
**FIG. 67**



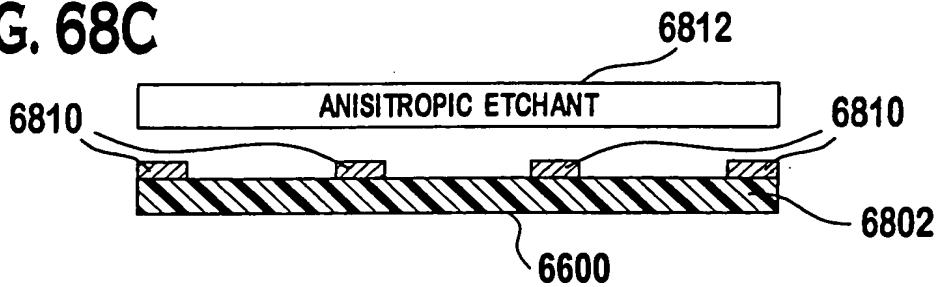
**FIG. 68A**



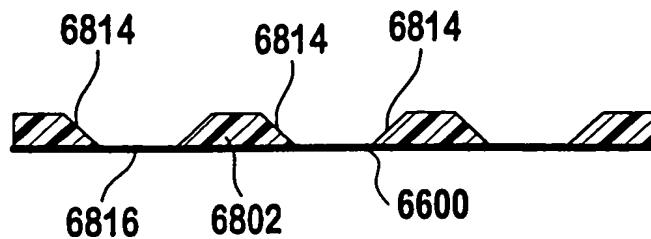
**FIG. 68B**



**FIG. 68C**



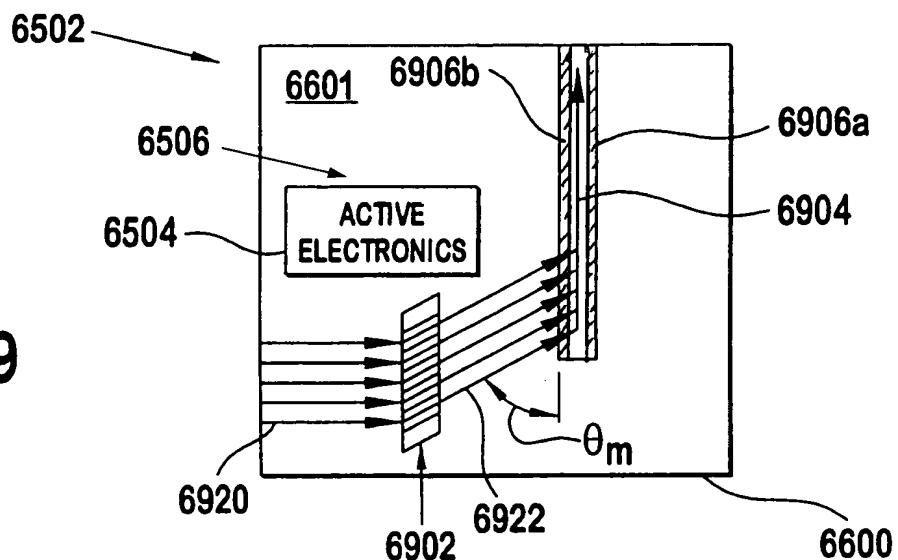
**FIG. 68D**



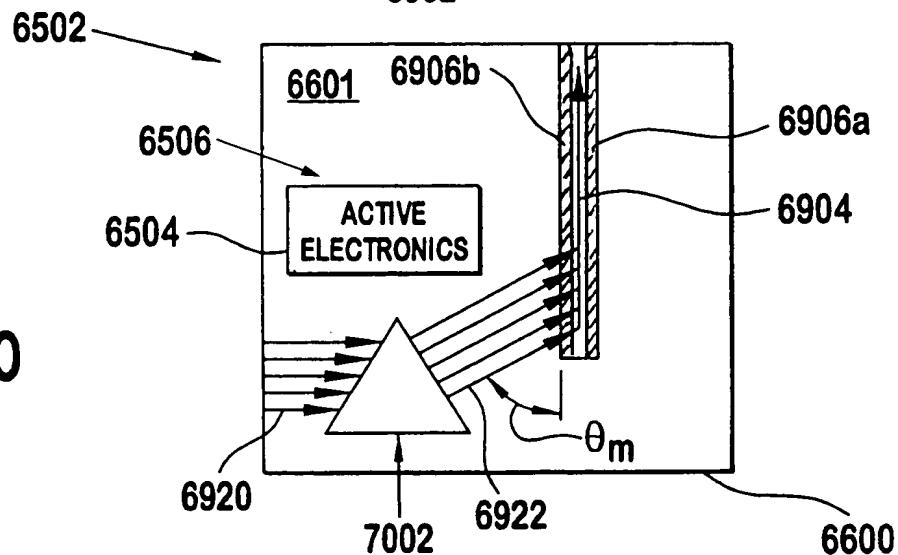


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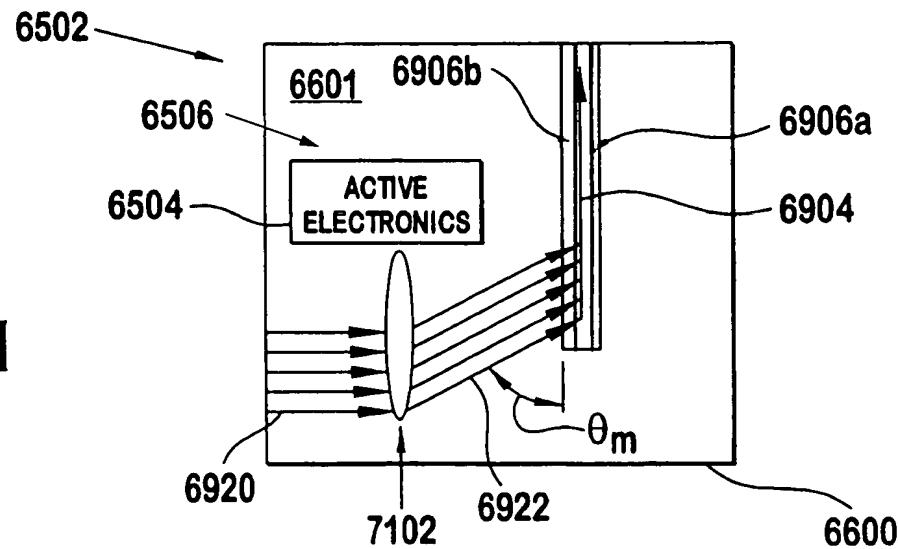
**FIG. 69**



**FIG. 70**



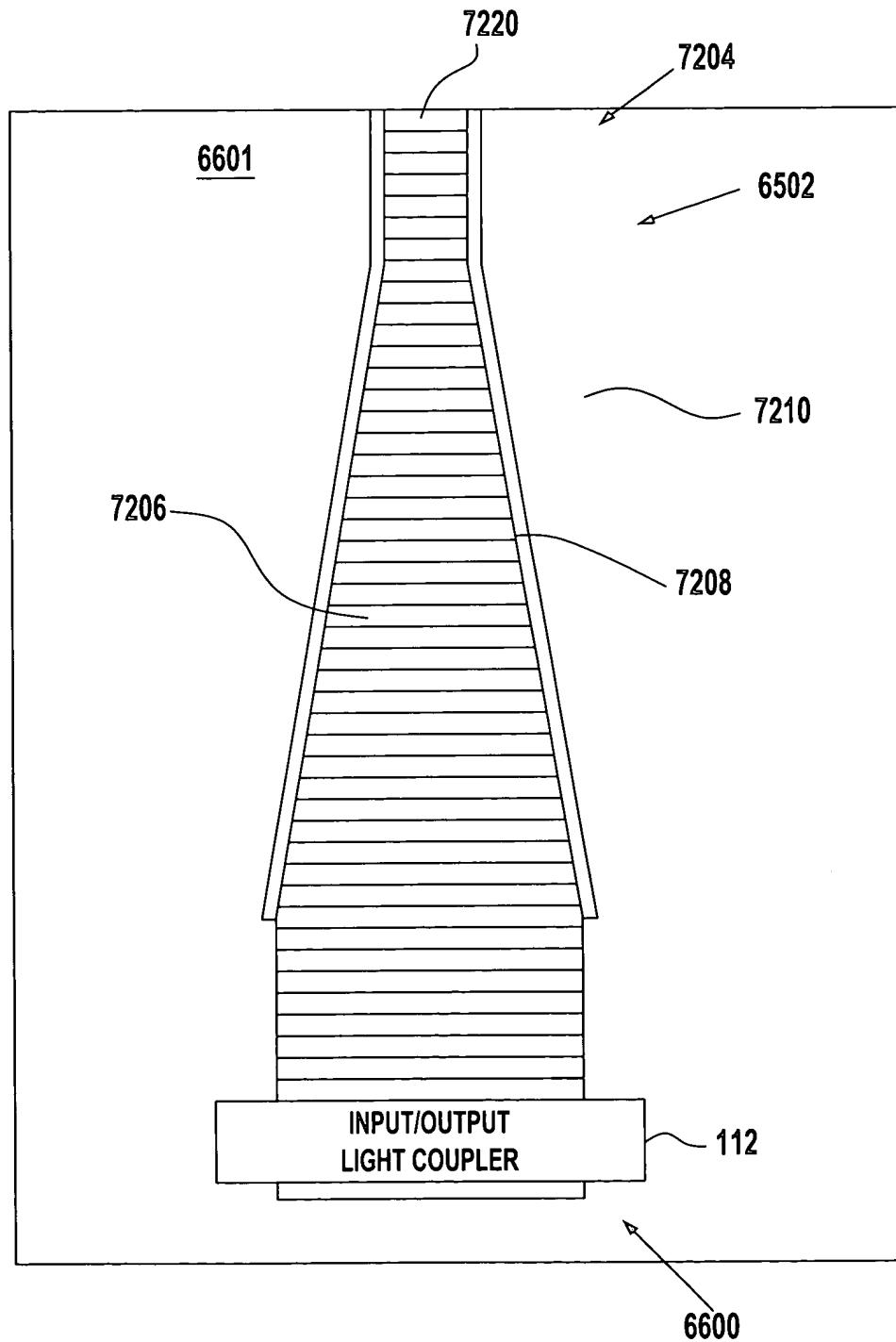
**FIG. 71**





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FIG. 72





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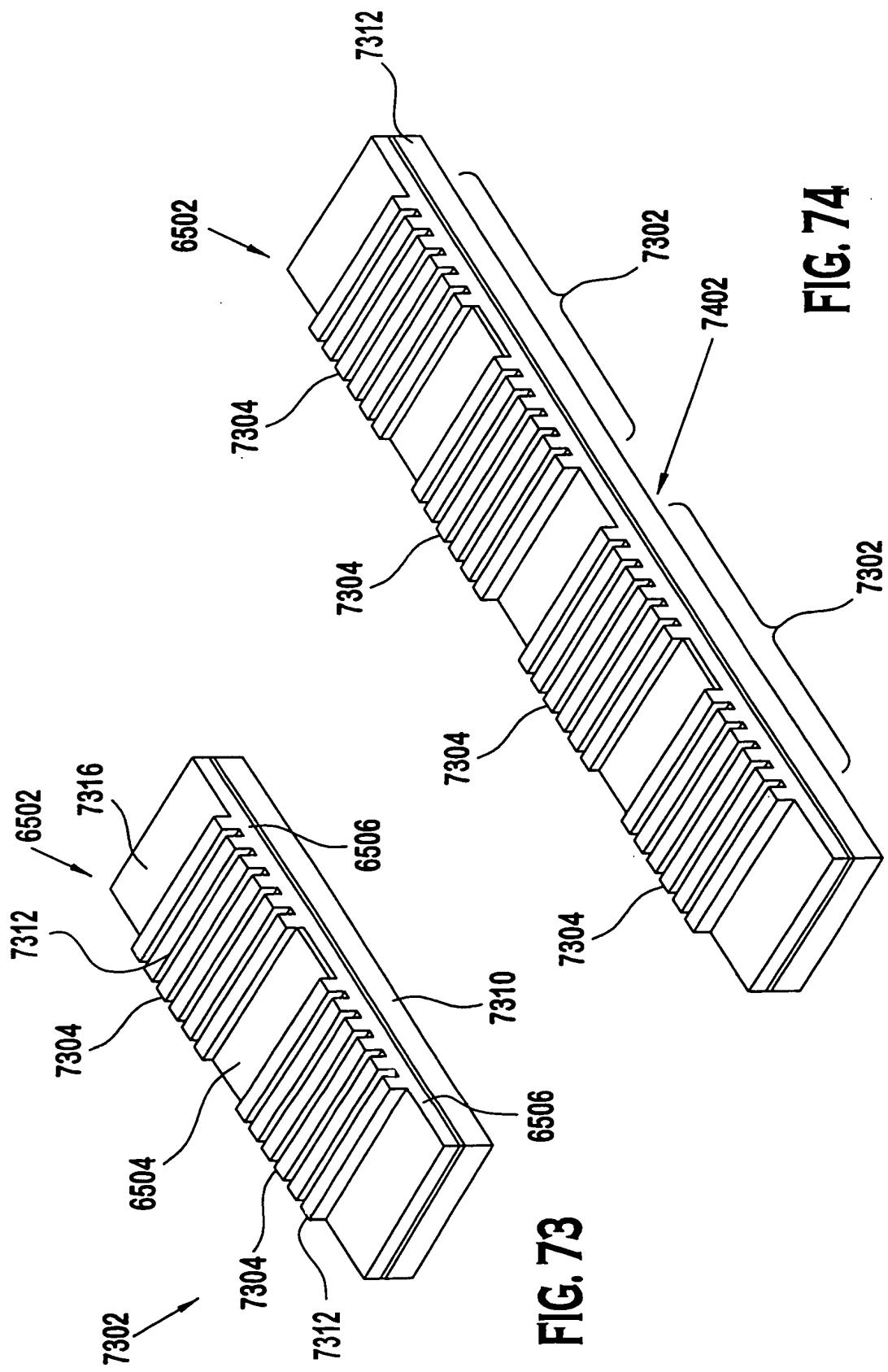
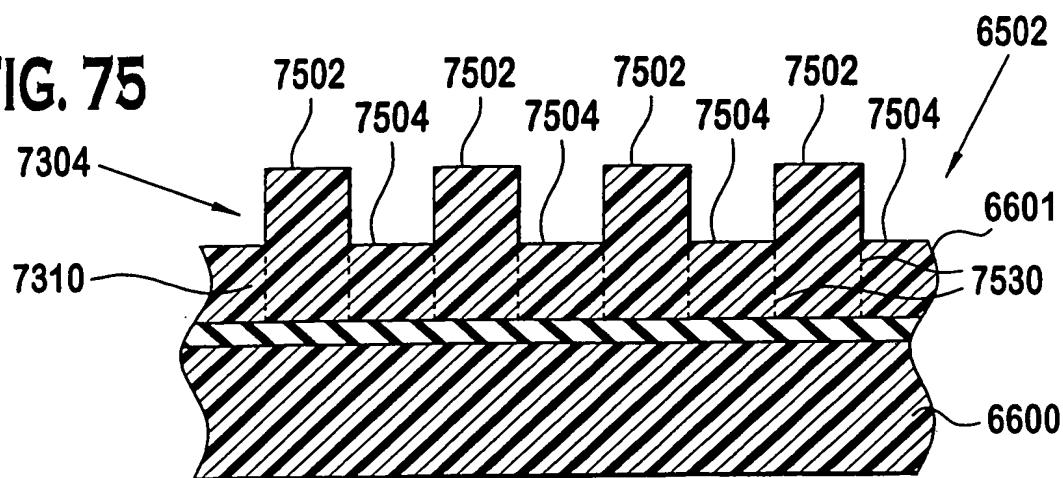
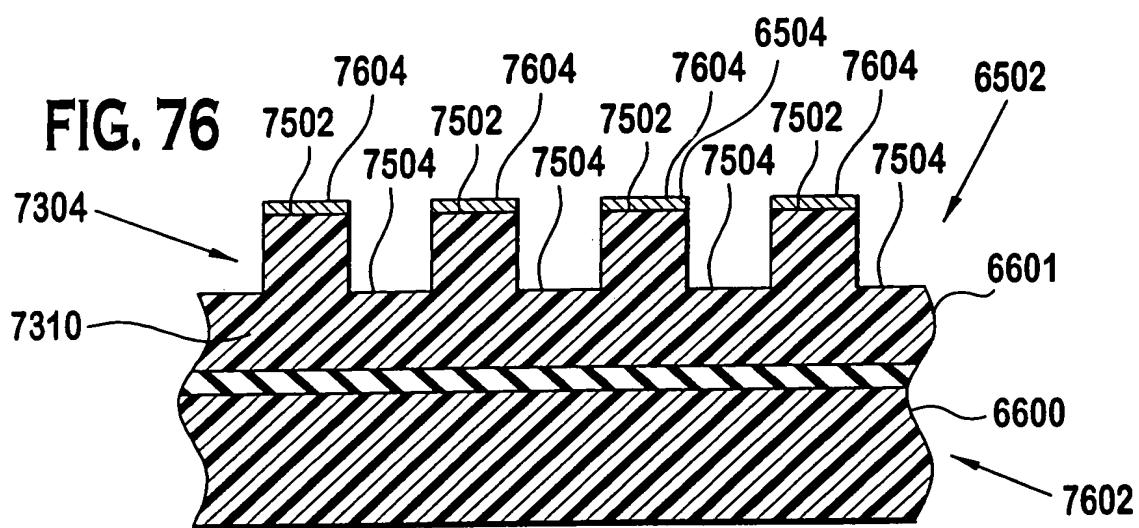


FIG. 73

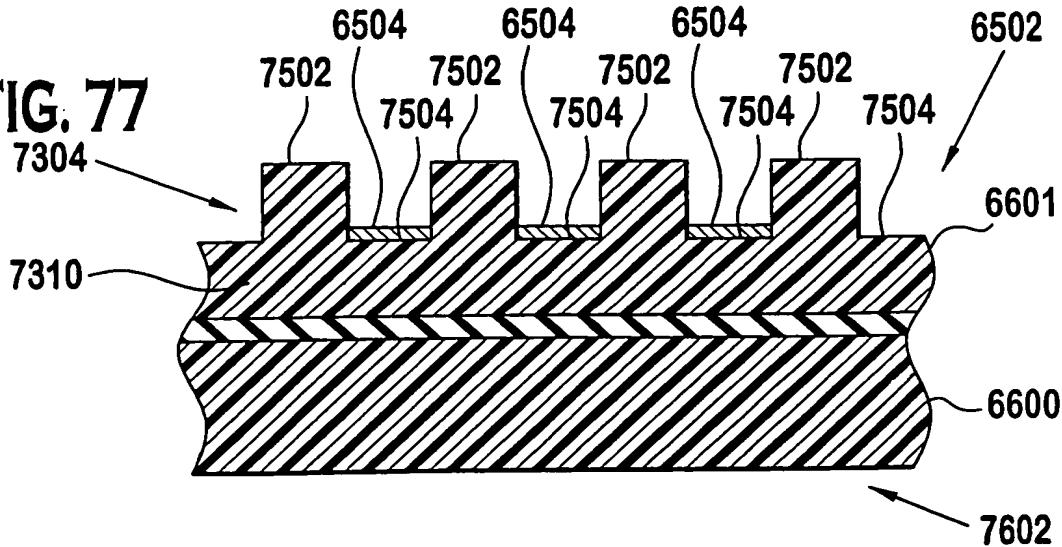
**FIG. 75**



**FIG. 76**



**FIG. 77**





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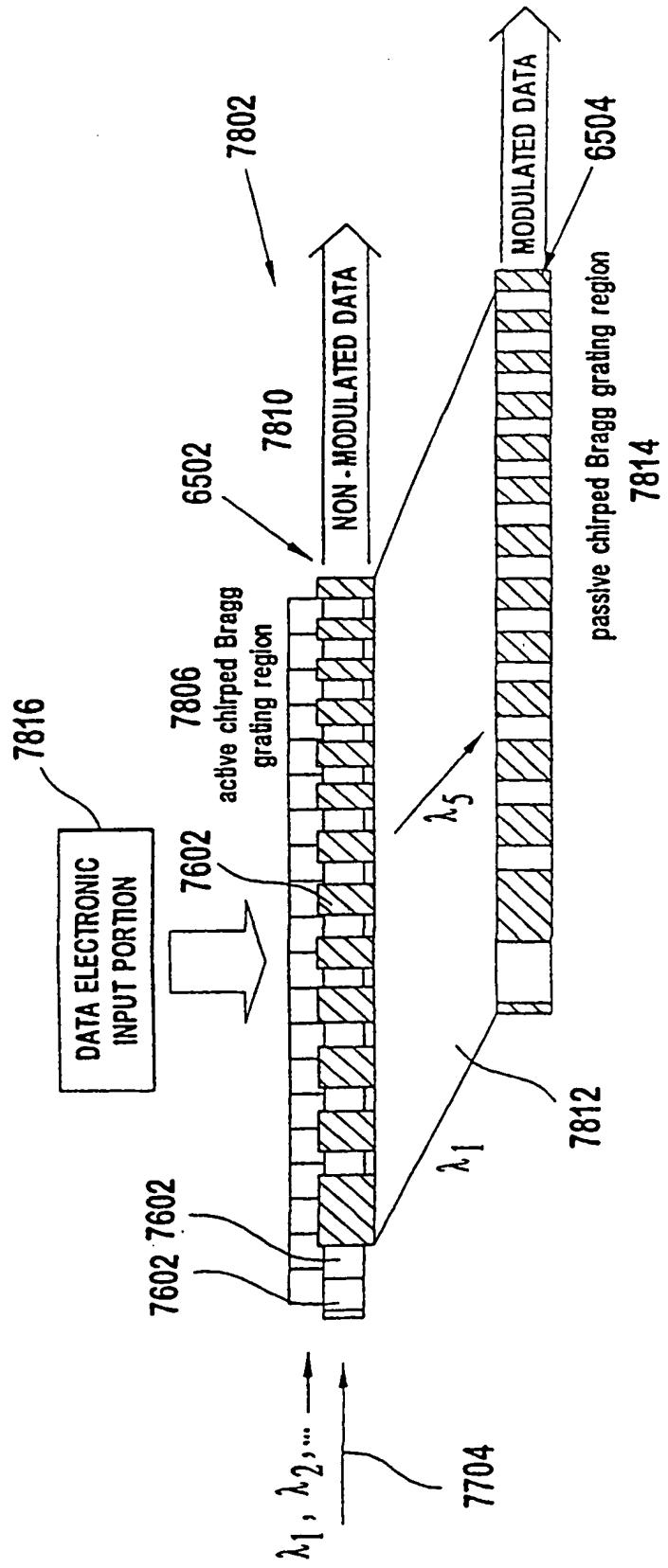
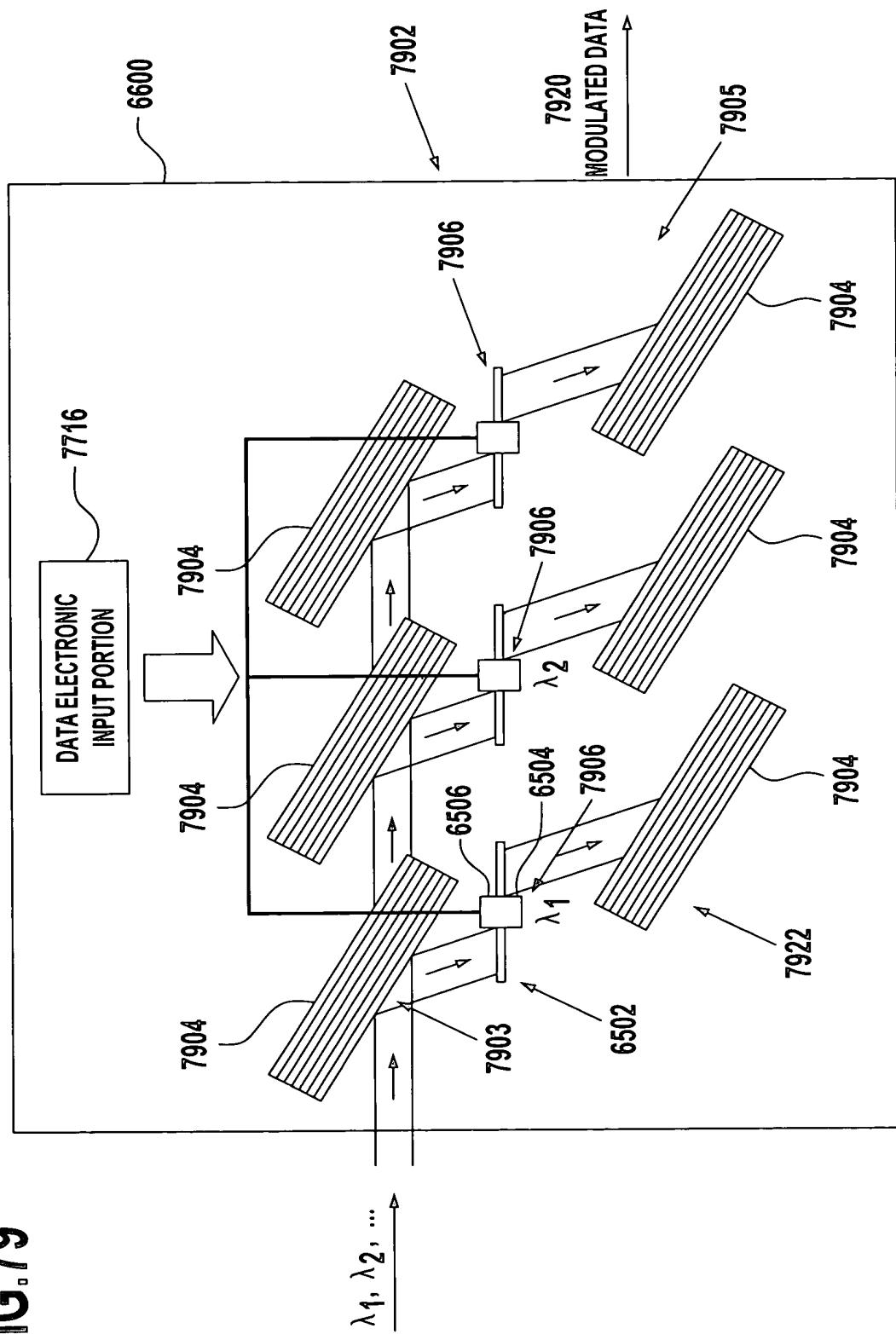


FIG. 78



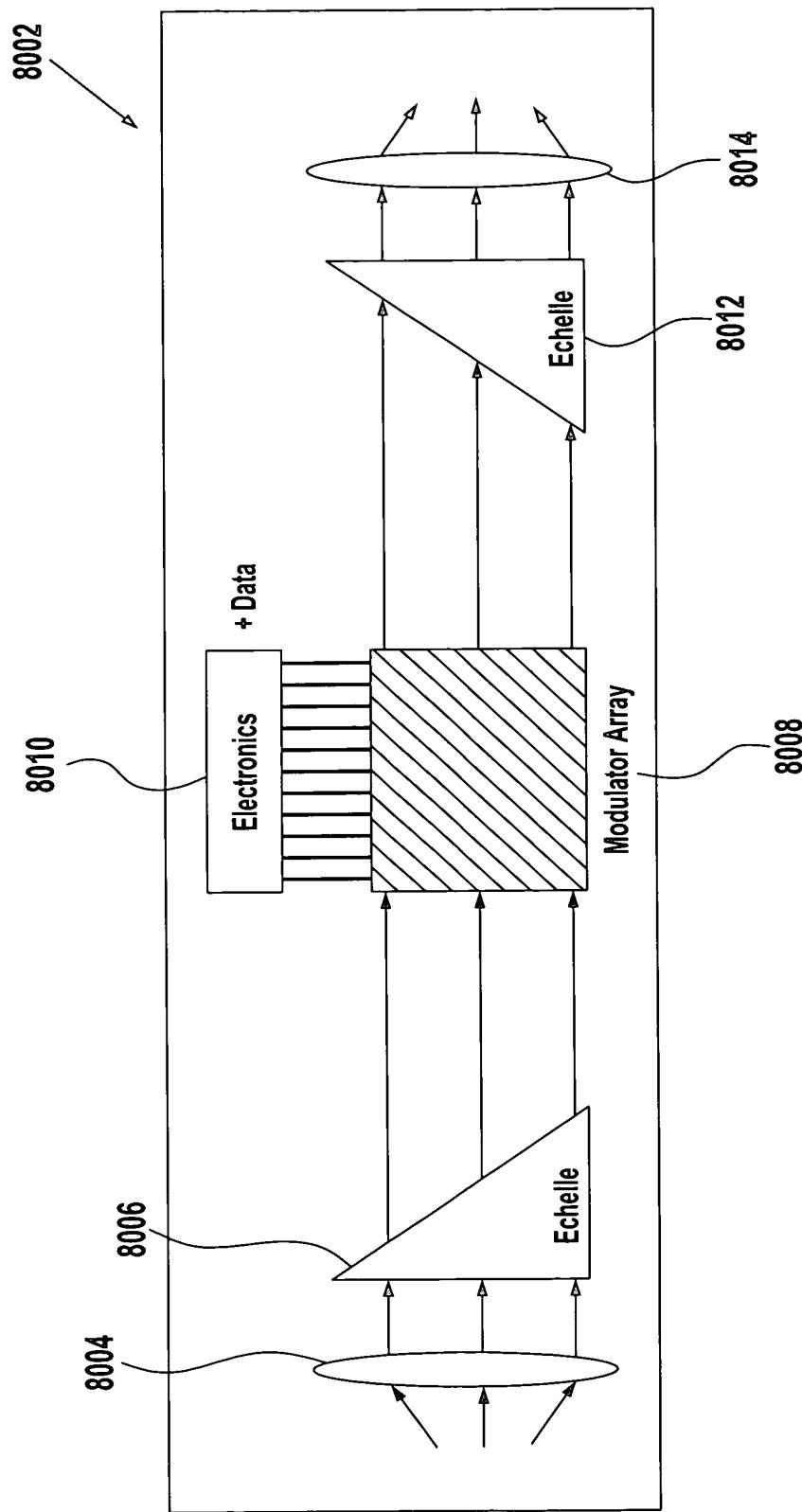
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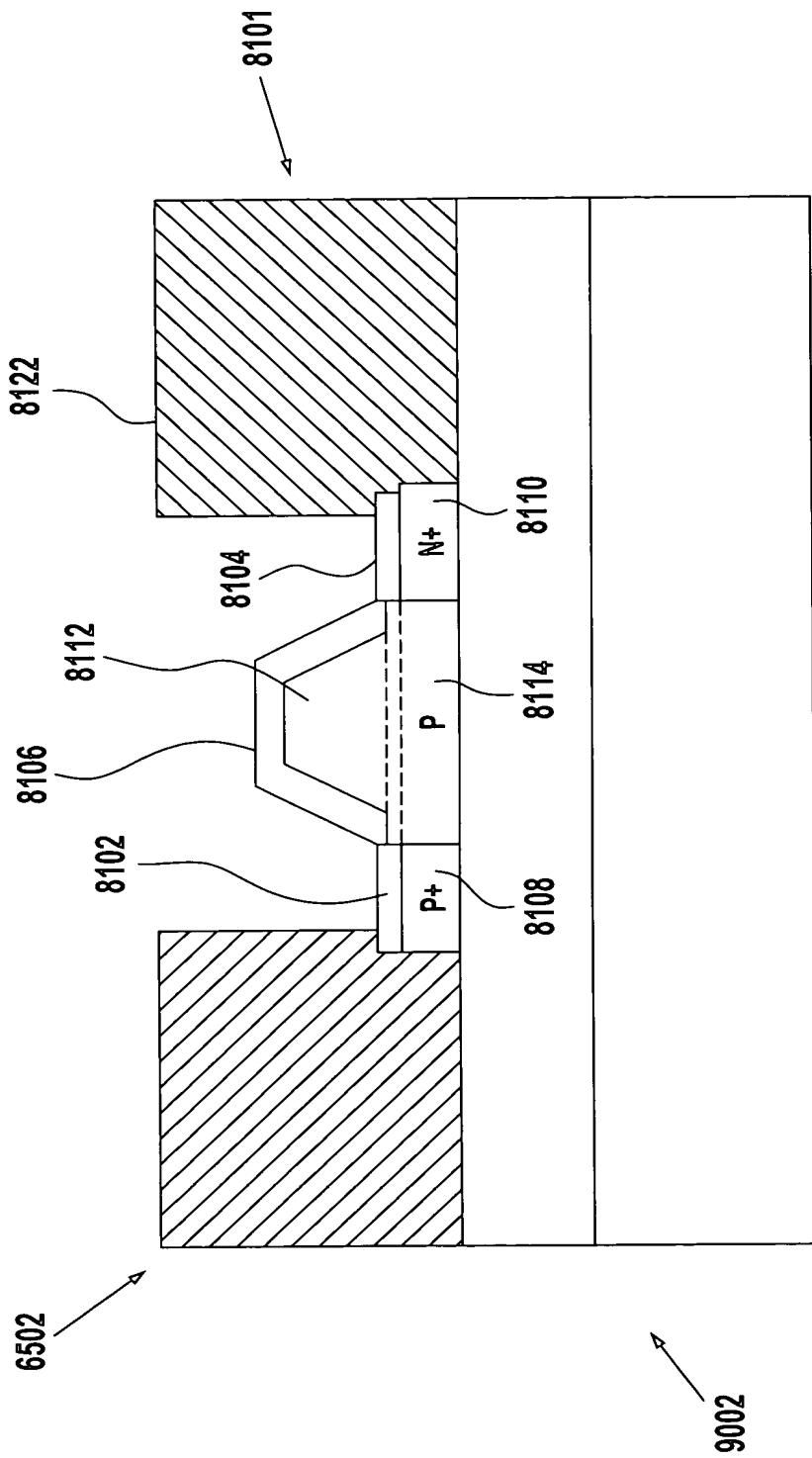
FIG. 80





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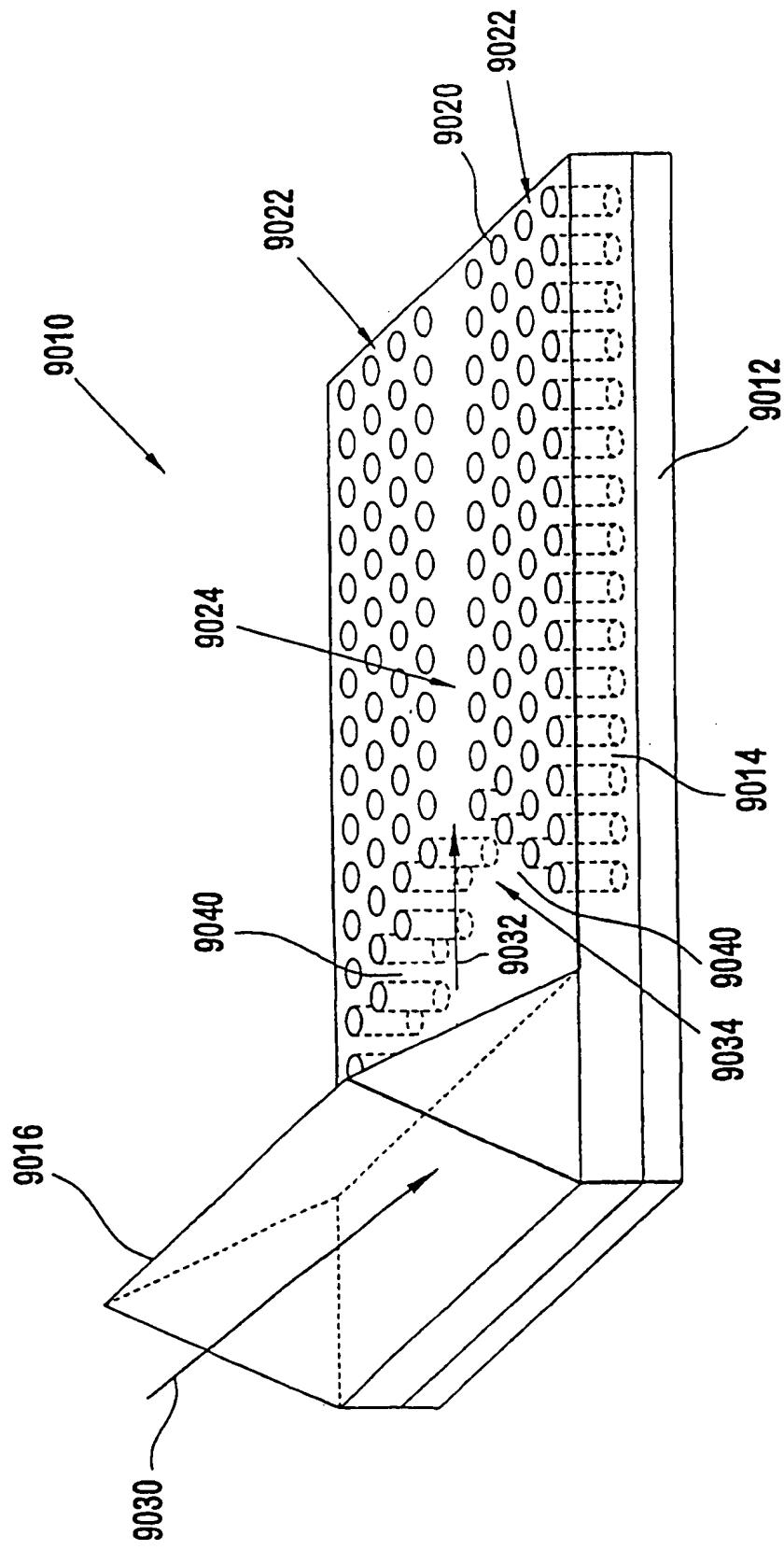
FIG. 81





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FIG. 82





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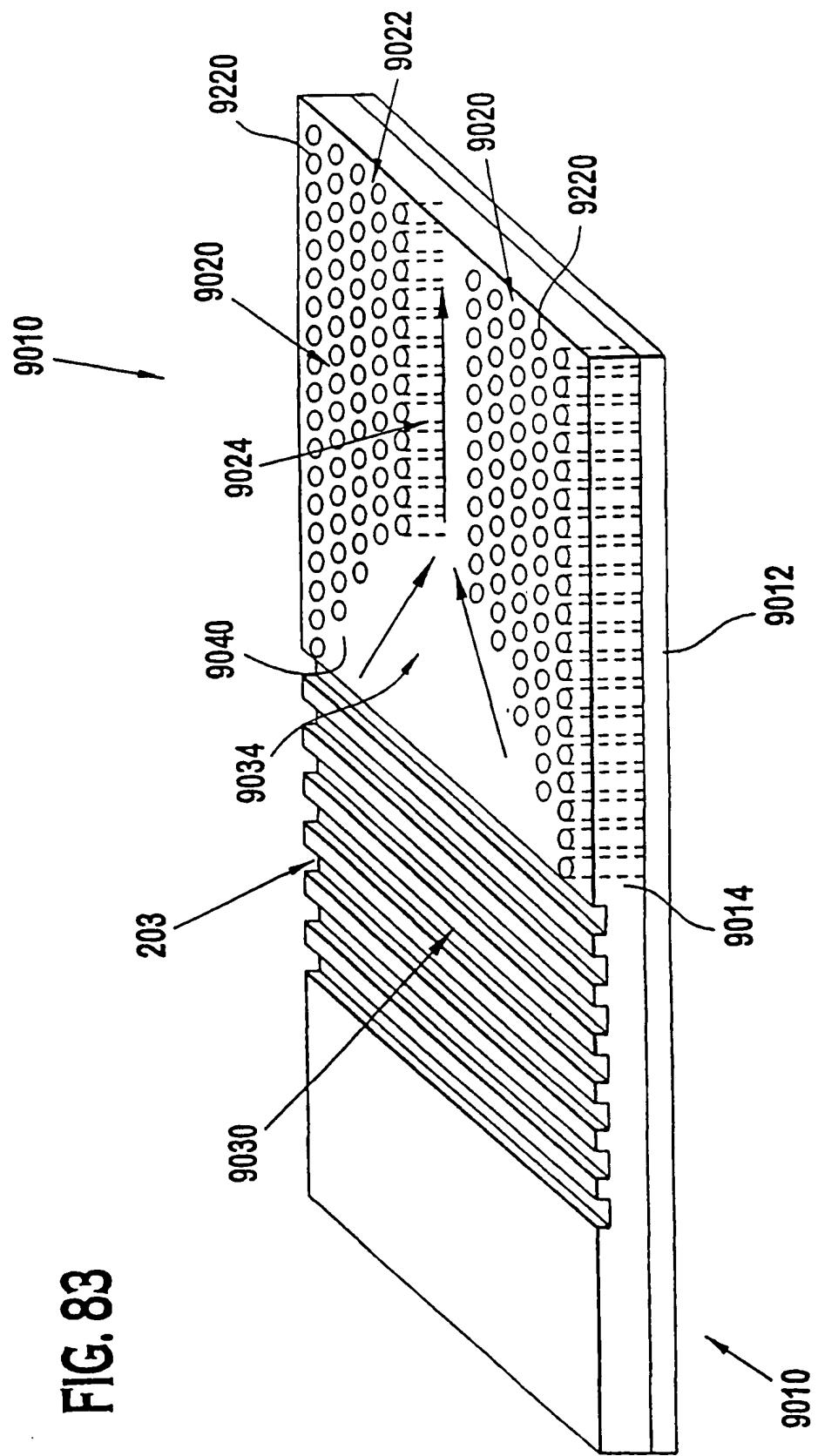


FIG. 83

FIG. 84

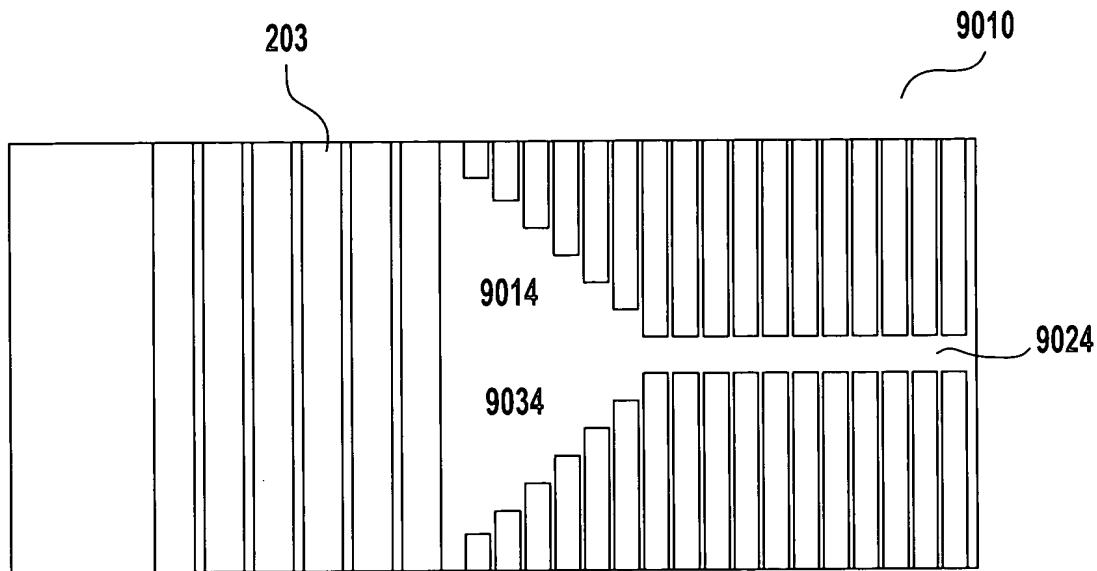
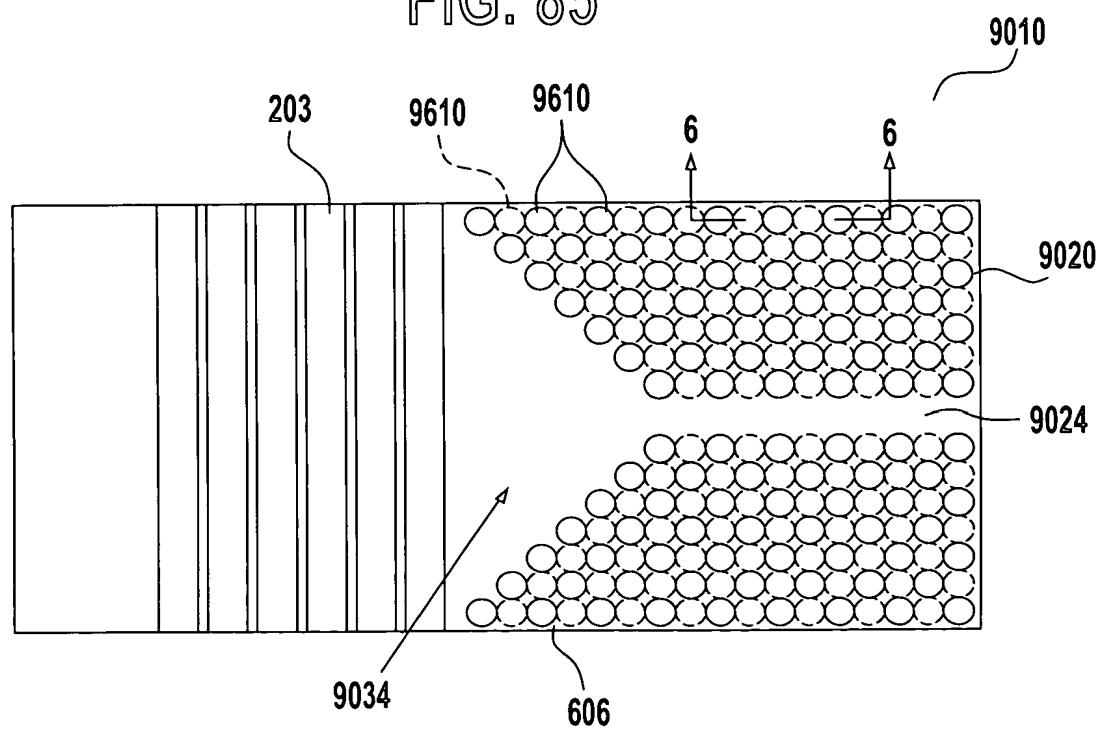


FIG. 85





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FIG. 86

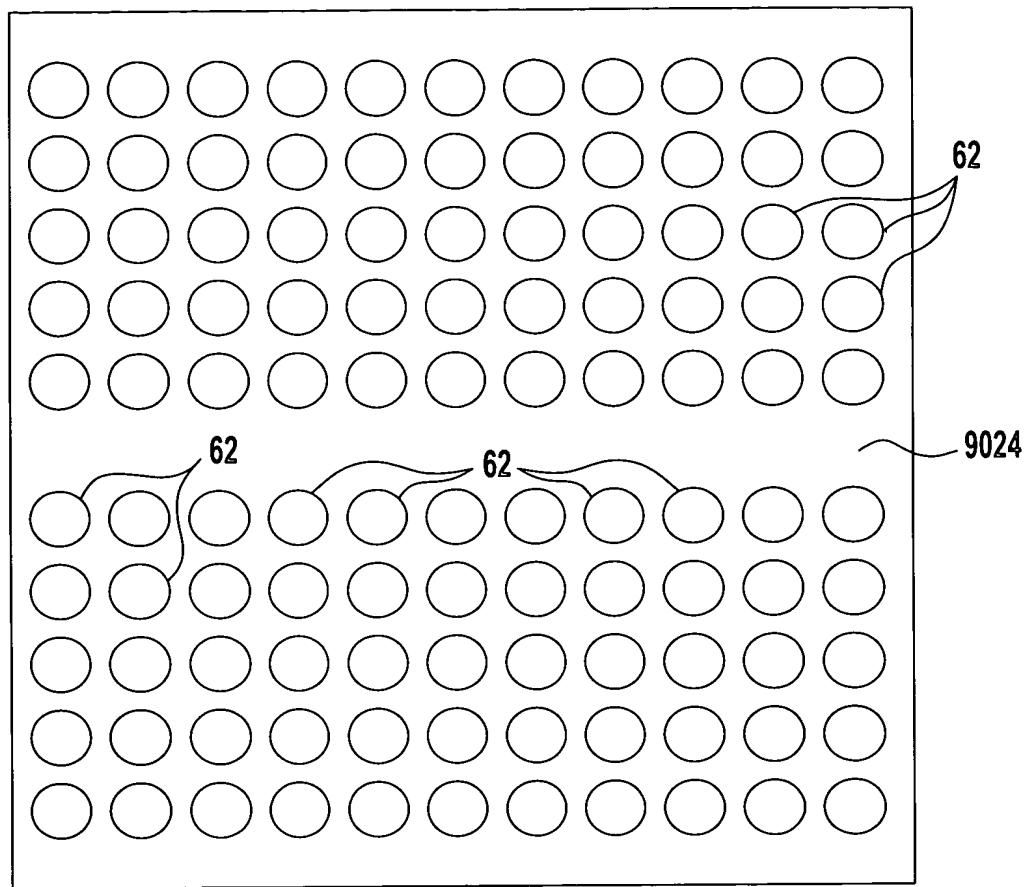


FIG. 87

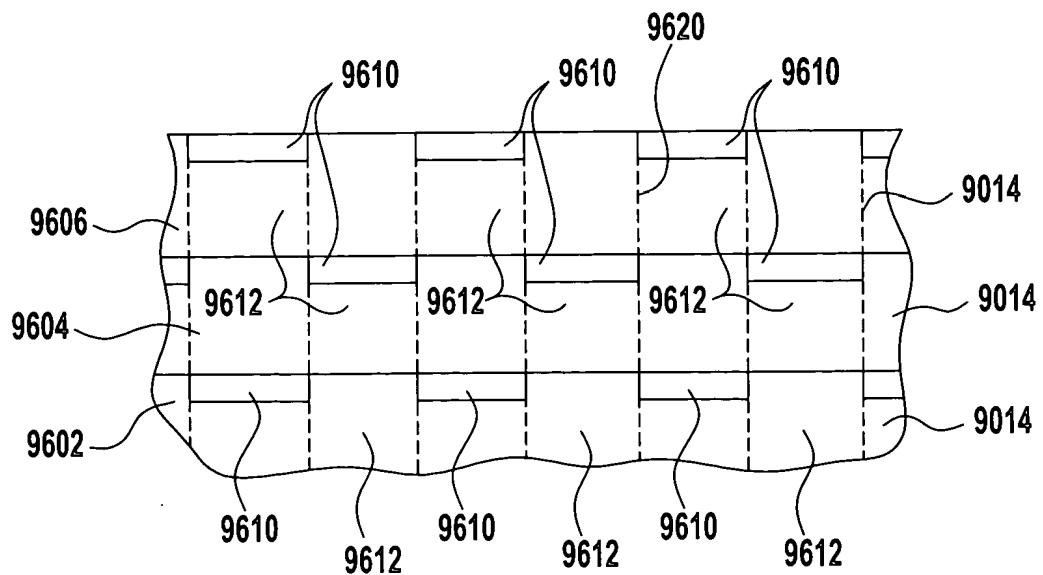
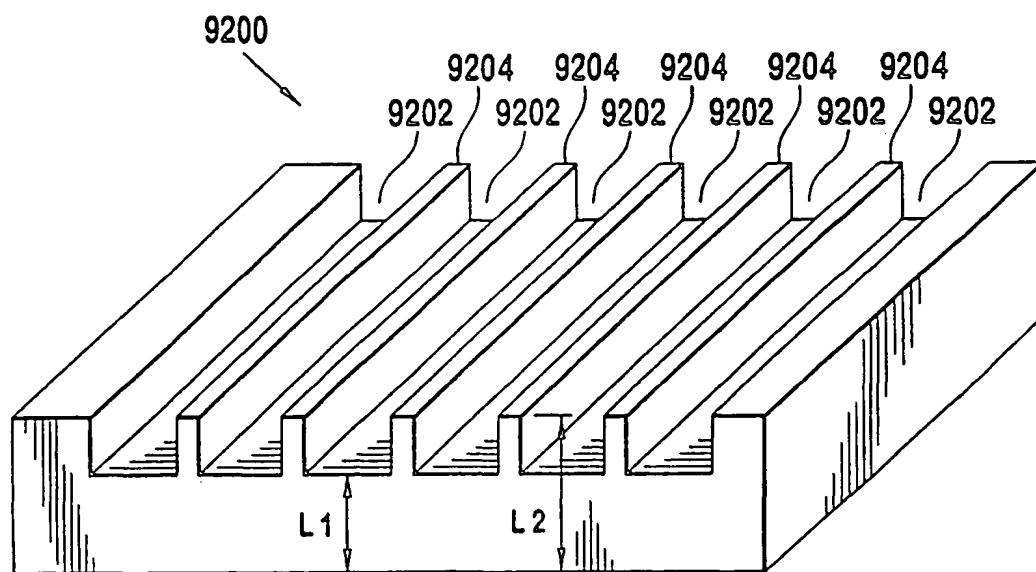
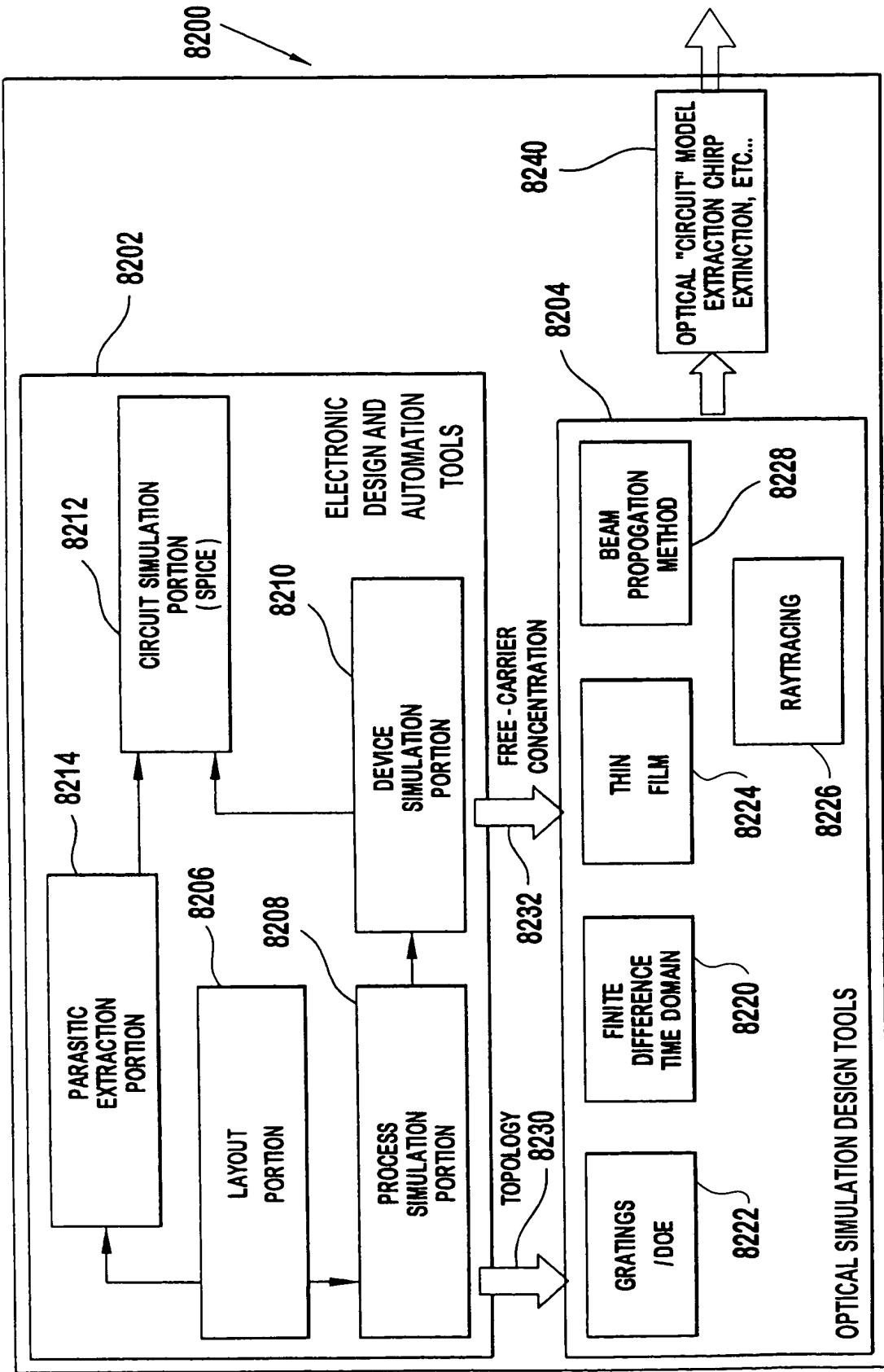


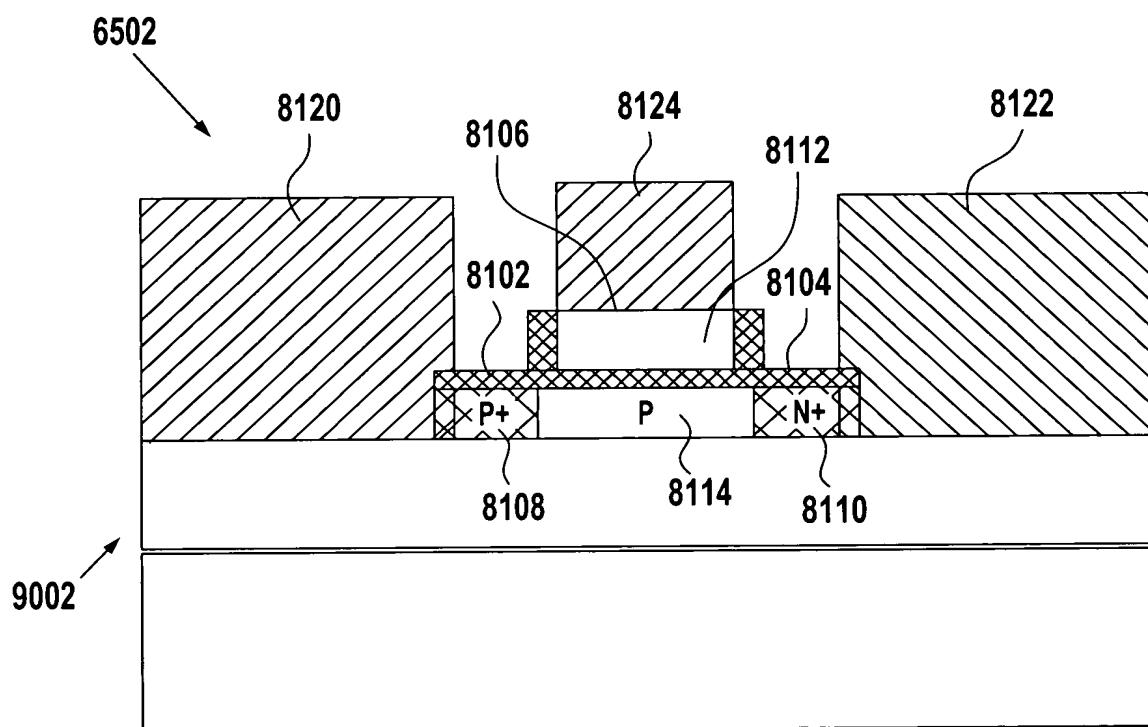
FIG. 88



**FIG. 89**



**FIG. 90**





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**FIG. 91**

